A SURVEY OF PHYSICIANS' VIEWS ON THE SASKATCHEWAN CANCER AGENCY'S FOLLOW-BY-MAIL PROGRAM

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ABSTRACT

Canadian cancer clinics are straining to keep up with growing numbers of patients and, as a result, the capacity to provide follow-up care to cancer patients is being stretched. The Saskatchewan Cancer Agency has structured its community follow-up program to ensure the routine follow-up of patients who have finished active cancer treatments. Follow-up letters are routinely sent to family physicians and some specialists requesting information on the disease status of their cancer patients. For this thesis, I conducted a mail survey of 925 Saskatchewan physicians serving 21,000 patients to learn about general practitioners' and specialists' views of the follow-up program. A 52.5% response rate was achieved.

The program was considered useful for 91.5% of physicians, with the follow-up letter serving an important role in reminding physicians to see their cancer patients for follow-up. High percentages of physicians indicated a need for additional patient-specific information (59.3%), clinical information (73.0%) and training (34.9%) to do follow-up. Logistic regression analyses found female gender, a specialty in general practice and lower physician confidence in following cancer to be associated with the need for additional patient information. Lower physician confidence was associated with the need for additional clinical information and a specialty in general practice and lower physician confidence were associated with the need for more training.

Percentages of physicians saying they were very confident in following various cancers ranged widely from 19.1% for lymphomas to 54.2% for breast cancer. All regression models regarding physician confidence in following six different cancers had a common correlate: the need for additional training. A physician's number of follow-up patients was a significant correlate in four of the six regression models and physician specialty was included in half of the models.

The results suggest areas of the program and physician need that should be addressed to ensure the delivery of quality follow-up care and the survey findings will be helpful in devising strategies to this end. At the same time, responses indicate the program to be an essential component in the delivery of community-based follow-up care in Saskatchewan.

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I would like to thank my friends and family for supporting me and sharing this journey. Heartfelt thanks go out to Helen Oliver for sharing "the dungeon" and her wisdom. She is a beautiful person and I am very privileged to call her *friend*.

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DEDICATION

I dedicate this work to cancer patients receiving follow-up care through the Follow-By-Mail program, that this work might have a positive impact on your lives and the care you receive.

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LIST OF ABBEVIATIONS

FBM	Follow-By-Mail
GP	General Practitioner
LRT	Log-likelihood Ratio Test
PHARE	Public Health and the Agricultural Rural Ecosystem
SCA	Saskatchewan Cancer Agency
UFE	Utilization-focused Evaluation

CHAPTER 1

INTRODUCTION

1.1 General Background and Statement of the Problem

The purpose of follow-up cancer care is to detect local and distant recurrences, identify second primary cancers, provide psychosocial support to patients and their families and collect data on patient outcomes.[1, 2] As early detection programs improve, the occurrence of various cancers increases, and better treatments increase survival rates, the demand for follow-up care will continue to increase.[3, 4] A major concern is that the demand for follow-up care will constrain the time available for cancer patients with active disease who need the attention of cancer specialists more immediately.[5]

The Saskatchewan Cancer Agency's Follow-By-Mail program (FBM) originated as a method of tracking patient survival data for the provincial Cancer Registry as well as for identifying episodes of recurrence or metastases. Although FBM is still used as a method of survival/recurrence analysis, it has also become a method to routinely follow patients through their general practitioners (GPs), surgeons or other specialists in an effort to mitigate high patient volumes at the province's cancer centres. The program is meant to encourage proper follow-up care for patients discharged from or not attending one of the province's cancer centres. An additional advantage of FBM is that the travel burden experienced by many patients is decreased by providing care in their own communities. The overall aim of the program is to increase survival and enhance patients' quality of life. The precursor program to FBM began operating in 1932, but neither of the programs had been formally evaluated.

1.2 Purpose of the Study

The purpose of this evaluation was to determine physicians' views of FBM. Of primary importance was gaining an understanding of the extent to which physicians'

information needs are being met by the program and to evaluate physicians' levels of confidence in providing follow-up care with the assistance of FBM.

1.3 Significance of the Study

As part of the accreditation process for the SCA, FBM was identified as a program that should be evaluated as the program is unique in Canada. The study was meant to assist the SCA in identifying aspects of the program needing improvement from the perspective of the community-based physician. The evaluation has the potential to assist in tailoring FBM to better meet the information and training needs of physicians and increase physicians' confidence in doing follow-up. Optimizing the delivery of the program will enhance the provision of appropriate and consistent follow-up care across the province, thus freeing up appointments at the cancer clinics for patients with active disease and reducing the travel burden for patients who would otherwise need to travel long distances to receive follow-up care. The findings on physicians' information and training needs as well as physician confidence could be used to encourage medical schools, medical associations and the SCA to help in addressing physicians' unmet needs and suboptimal levels of physician confidence.

This study revealed to stakeholders whether or not physicians think the program is worthwhile. As a result, the findings have already impacted funding decisions. The findings on program usefulness may also be used to encourage other provinces and territories to implement a program like FBM to facilitate the delivery of follow-up care in their jurisdictions. Community-based cancer follow-up outside of Saskatchewan is currently left up to patients and their regular physicians to keep track of appropriate intervals for follow-up.

1.4 Program Description

Patients are generally placed on FBM either at the time of discharge from a cancer clinic or, for patients not seen at a cancer clinic, upon registration with the provincial Cancer Registry. Four groups of patients are enrolled in the program: 1) those who have finished active treatments and follow-up at a cancer clinic, 2) some palliative (those with terminal illnesses) patients, 3) those who have had surgery and have not been seen at a cancer clinic and 4) those who have to wait a considerable time for their next appointment at a cancer clinic. Upon enrolment, FBM letters are sent to the patient's GP, surgeon or

other specialist along with recommended follow-up guidelines on the back of the letter. There are site-specific letters for breast, colorectal, lung, prostate, endometrial, cervical and ovarian cancers and Hodgkins/non-Hodgkins lymphoma. Generic letters without guidelines are used for other cancers. A letter may be sent directly to a patient when it is no longer deemed necessary to follow that individual through a physician. The intent of this follow-up is to verify the patient's status, current physician and contact information. A letter may also be sent to an out-of-province cancer clinic if a patient is being followed there. The follow-up letters are generated automatically at intervals dependent on the type of cancer, how long the patient has been enrolled in FBM and whether or not the patient is disease-free. Intervals range from four months to two years. After the first two to three years of follow-up, disease-free patients are normally followed annually for a total follow-up period of ten years.

Each completed and returned FBM letter is coded into an electronic system. The patient's disease status, information on recurrence or metastasis and any treatment-related information are entered. If a letter contains comments from the signing physician, the letter may be referred to an oncologist for review. At that time, the interval for sending FBM letters may be adjusted.

Approximately 1,000 letters are sent out per month from each of the province's two cancer clinics. The return rate on these letters is approximately 98%. The program serves 21,000 patients with follow-up care provided by about 1,000 physicians.

1.5 Evaluation Framework

This study was primarily a process evaluation that took a utilization-focused approach. Process evaluations answer questions about the effectiveness of program operations and implementation, rather than making judgments about the overall effectiveness, merit or worth of a program.[6, 7] They investigate how well the program is functioning.[6] Such evaluations provide information for quality assurance purposes in that they assess the degree to which a program is implemented as intended and is operating at an acceptable level.[6] Also called formative evaluations, process evaluations indicate areas requiring improvement.[6]

This evaluation describes how well FBM is operating from the perspective of the community-based physicians providing follow-up cancer care. As important stakeholders

and frontline care providers, their views of the program offer unique perspectives and insights into the functioning of the program. Such feedback will be and has been useful in enhancing the program's role in the delivery of optimal patient care.

Patton describes program evaluation as "the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness, and/or form decisions about future programming."[7] He goes on to define utilization-focused evaluation (UFE) as "evaluation done for and with specific, intended primary users for specific, intended uses."[7] UFE is a comprehensive approach to evaluation which aims to increase the likelihood that evaluation findings will be used and acted upon.

The starting point for UFE is the belief that judgment about an evaluation should be based on its utility and actual use; therefore, the evaluator facilitates the planning and implementation of an evaluation with consistent attention to how use will be affected.[7] This pragmatic approach gives the evaluator flexibility to use any type of research design that is "relevant, rigorous, understandable, and able to produce useful results that are valid, reliable, and believable."[7]

Patton reports that after studying a number of possible factors which could influence use, two factors consistently emerged as important—one factor being political considerations and the other what he calls the 'personal factor.' Since evaluations judge merit or worth, they are always political. For example, program personnel may have different opinions about why the evaluation is being done and if the program should be evaluated at all. Others may wonder if the evaluation will have any impact and if the results will be reflective of the actual circumstances of the program. The evaluator must be aware of the political context in which the program is situated so that the evaluation is influential. The personal factor is described as "the presence of an identifiable individual or group of people who personally care about the evaluation and the findings it generates."[7] It is for this reason that the primary intended users of the evaluation, those who were actively seeking information to make judgments about FBM, were sought out at the beginning of this evaluation. I then facilitated "judgment and decision making by intended users rather than acting as a distant, independent judge."[7]

UFE was influential in all stages of the evaluation. A number of activities were carried out to increase the likelihood that the evaluation results would be used, including: ongoing communication with key contacts at the SCA, solicitation of feedback from the SCA's evaluation team when significant decisions had to be made, keeping the SCA's executive director in the loop about the evaluation's progress and discussions with the team regarding the evaluation's intended influence on the program's future and the standards by which survey results would be judged. These aspects of the evaluation are described in detail elsewhere.

1.6 Research Questions

Based on the purposes of the evaluation as determined by the SCA evaluation committee (see Section 3.4), the following research questions were formulated:

1. What are physicians' overall impressions of FBM?

2. Do FBM letters give physicians enough information to enable them to do cancer follow-up?

3. How confident are physicians with providing follow-up care?

In the following chapter, the research literature related to these research questions is reviewed.

CHAPTER 2

LITERATURE REVIEW

The literature presented in this chapter pertains to various aspects of cancer and cancer care relevant to FBM which had implications for the development of the research questions and interpretation of survey data.

2.1 The Demand for Follow-up Care

The prevalence of cancer continues to rise as a result of Canada's aging population.[8] Cancer is most common among people over 50 and this group is projected to increase in size for many years to come.[9,10] In addition, "more effective treatments are improving long-term survival and prolonging disease-free intervals; hence, more patients are defined as being in remission."[11] As a result, more and more patients are requiring follow-up care, putting a heavy burden on cancer centres in terms of budget and time resources.[3]

The number of new cancer cases in a population is an important measure of the burden of cancer on the health care system. Expected increases can be used to plan for the increasing demand on health services and the associated health care facilities.

2.2 The Role of Cancer Centres in Canada

At cancer centres in Canada, specialists normally deliver multidisciplinary cancer treatments and team-based oncologic follow-up care as required.[12] Once treatments are complete, patients are typically discharged back to their GPs or other referring physicians.[12] GPs are often expected to provide ongoing primary care and cancer follow-up.[12]

In terms of follow-up cancer care, FBM is unique in Canada. No other province or territory has a system through which community-based physicians are notified when it is

time to see a patient for follow-up. Routine linkages of cancer registries with vital statistics as a form of passive surveillance, however, are common practice.[12]

2.3 Physicians' Roles in Cancer Care outside the Cancer Clinic

Studies show that GPs want to be involved in the care of their patients who have cancer. One Canadian study found that family physicians wished to be more involved in all phases of cancer care.[13] GPs have knowledge of patients and their families and this knowledge can be especially helpful in areas of care such as the provision of psychosocial support.[13] One British study showed that 69% of GPs thought routine breast cancer follow-up should be done by GPs.[1]

However, for various reasons, such as fear of missing a diagnosis of cancer recurrence and the perception that patients do not want to abandon their oncologists, some family physicians have reservations about doing follow-up.[13] Some 9.9% of Canadian family physicians surveyed said they would not accept the responsibility of providing follow-up care for breast cancer patients.[3] The majority (77.1%) of physicians, however, thought it was appropriate for family physicians to provide this type of care.[3]

Family physicians' feelings of competence regarding the provision and coordination of care during remission vary, but physicians are more prepared to accept the responsibility of care if they are provided with practice guidelines to follow.[13] Appropriate guidelines and support from cancer specialists are important to ensuring appropriate care.[3] Clinical practice guidelines are tools arising from the synthesis of the most up-to-date scientific knowledge and expert consensus.[14] They are meant to eliminate gaps in practitioners' knowledge, assist in informed decision-making, guide practitioners' behaviour in an appropriate direction and improve the quality of care patients receive.[15]

Family physicians have the skills to do follow-up for most types of cancer.[16] Follow-up care generally involves history taking, physical examination, and sometimes blood tests and radiologic testing.[16-18] Most (68.9%) British GPs believed they had the skills required for breast cancer follow-up, but 57.5% indicated they needed further training.[19]

2.4 Communication between Physicians

Difficulties encountered by community-based physicians during follow-up may interfere with the delivery of such care. A family physician's role in cancer care has been

described as that of support person, patient advocate, resource person, provider of general medical care, triage and referrals, member of the cancer team and team member with an ill-defined role.[3, 20-22] Family physicians have described numerous barriers in communicating with cancer specialists which hinder their roles in follow-up care. Extrinsic barriers, or those outside the control family physicians, include: follow-up by several physicians, delays in referrals, difficulty contacting cancer specialists, impersonal modes of communication (i.e., letters), lack of information about discharge and follow-up plans and trouble accessing information and knowledge about cancer.[13, 20] Some intrinsic barriers to communication, or those within the control of family physicians, include: taking a passive approach, low self-esteem and self-image, fear of loss of specialist support, inadequate knowledge, fear of guilt or blame and varying needs of physicians and patients.[20]

Other studies have identified similar communication difficulties between physicians. Letters are the usual means by which physicians communicate with each other.[23] The length of time it takes for the referring physician to receive a consultation letter from a cancer centre physician has been identified as a problem in numerous cases. Face-to-face or telephone contact are seen as more effective means of communication and may be important for negotiating the roles of the involved physicians.[13, 20, 22] The lack of important details in reports regarding referred patients has also been a problem. [13, 23-25]

In addition, family physicians are not commonly included in cancer care immediately following a diagnosis, making it difficult for them to become involved with the patient again after active treatment.[17, 21, 26-28] Only 61.6% of surveyed primary care physicians in Alberta were actively involved in their patient's care while they were being treated at a cancer centre.[23] A lower percentage (30.8%) of FP involvement during the treatment phase of care was reported by cancer patients in Manitoba.[21]

2.5 Physicians' information needs

Physicians' information needs are important to understand and address when administering a program that asks physicians to provide a particular type of patient care. The quality of information received from cancer specialists can have an impact on physicians' knowledge about the patient's disease and treatments and the physician's satisfaction with the information.[29] The quality of information sources such as peer review and validation has been shown to be important to physicians.[30]

Johannson and her colleagues found that information provided by cancer specialists to GPs was generally insufficient.[29] Accessibility to the right information in the most useful form is needed. Physicians require information that is particular to the questions asked and is applicable to clinical practice. [31] The needed information may be either general or patient-specific.

Keeping up with new developments in cancer care is not an easy task.[32] For immediate decision-making by a physician at the point of care, information needs to be brief and easily interpreted.[33] One study of primary care physicians found that physicians pursued answers in clinical practice to approximately 57% of their questions and found answers to about 70% of those questions they pursued.[34] The UK's National Health Service previously set a target time of fifteen seconds for a physician to find relevant guidance when a question arises at the time of patient consultation and two minutes while a physician is reflecting on a patient's case.[31]

Various forms of patient-specific information are required for follow-up. In one study investigating the types of information GPs wanted from cancer specialists, the most important items were: information about the patient's cancer and other diseases, future planning and the GP's role in the care of the patient.[29] Likewise, another study revealed that referring physicians wanted letters from medical oncologists to contain details about the patient's diagnosis, clinical findings, test results, recommended future tests, treatment options, side effects and prognosis.[35]

A recent study in the UK found the most preferred information sources of family physicians to be their own personal collections, electronic sources and local specialists and colleagues.[36] A US study showed primary care physicians preferred consultants, drug compendia, colleagues and textbooks. Similarly, physicians in one American state most frequently used personal or office collections of books and journals and consultation with colleagues.[37] Family physicians have noted they would like access to information in written form, via the computer and internet and on a handheld device.[30, 38] General surgeons have been found to prefer professional meetings, medical literature, MD colleagues, continuing education courses and personal libraries as their predominant information sources.[39] The relevance of each of these information sources to Saskatchewan physicians providing follow-up cancer care is not currently known and the preferred

sources listed are likely to have been influenced by the rapid changes in the development of and access to electronic sources of information.

Physician characteristics such as specialty and gender should be considered when working to meet the information needs of physicians. Tattersall et al. found that more GPs than specialists expressed a desire to receive cancer diagnosis-related information including diagnosis, test results, clinical findings and explanation of symptoms.[35] In another study, GPs tended to rate the importance of items on hospital discharge letters as more important than cancer specialists. Information about check-ups, diagnosis, current treatment and pain alleviation was highest ranking among GPs and specialists alike, whereas female GPs deemed psychosocial and caring items higher than both specialists and male GPs.[25]

Gruppen also found that many factors influenced the information sources used by physicians.[40] These included: physician characteristics (e.g., age, experience and specialty), practice characteristics (e.g., community size, practice type and setting) and the availability of specialists, colleagues and educationally influential physicians or opinion leaders.[40] Motivations for seeking information also vary. One study of family physicians found that physicians seek information because of needs resulting from both professional responsibilities and personal characteristics.[36] Information seeking was predominantly intended to lead to problem-oriented information related to the care of individual patients, for keeping up-to-date and for finding information for patients.[36] Other factors prompting GPs to seek information were the need for pharmacological information and specific gaps in knowledge on new diagnoses and therapies.[36]

2.6 Summary

This review reveals a growing need for follow-up cancer care delivered by community-based physicians. Most GPs have expressed a desire to be involved in the care of their cancer patients and more physicians are willing to provide such care if they are provided with the needed information. Information may be patient-specific such as test results and side effects or more general in the form of clinical practice guidelines, for example. Physician characteristics may influence physicians' information needs. The literature also identifies some barriers to the delivery of follow-up care including a lack of timely and pertinent information. This information was particularly useful in understanding

the nature and importance of follow-up care as well as survey results regarding physicians' training needs and the importance of various information sources.

As this study investigated physicians' confidence in following a number of cancers, I searched the literature for conceptualizations of this construct, but found none. There was also a gap in the literature regarding levels of unmet information needs among community-based physicians delivering follow-up cancer care.

CHAPTER 3
METHODOLOGY

A researcher-developed questionnaire was used in this study to explore physicians' views on the Saskatchewan Cancer Agency's Follow-By-Mail program, including their information needs and confidence in providing follow-up care. The following is a description of the study's research methodology. A summary of the methods used can be found in Figure 3.1.

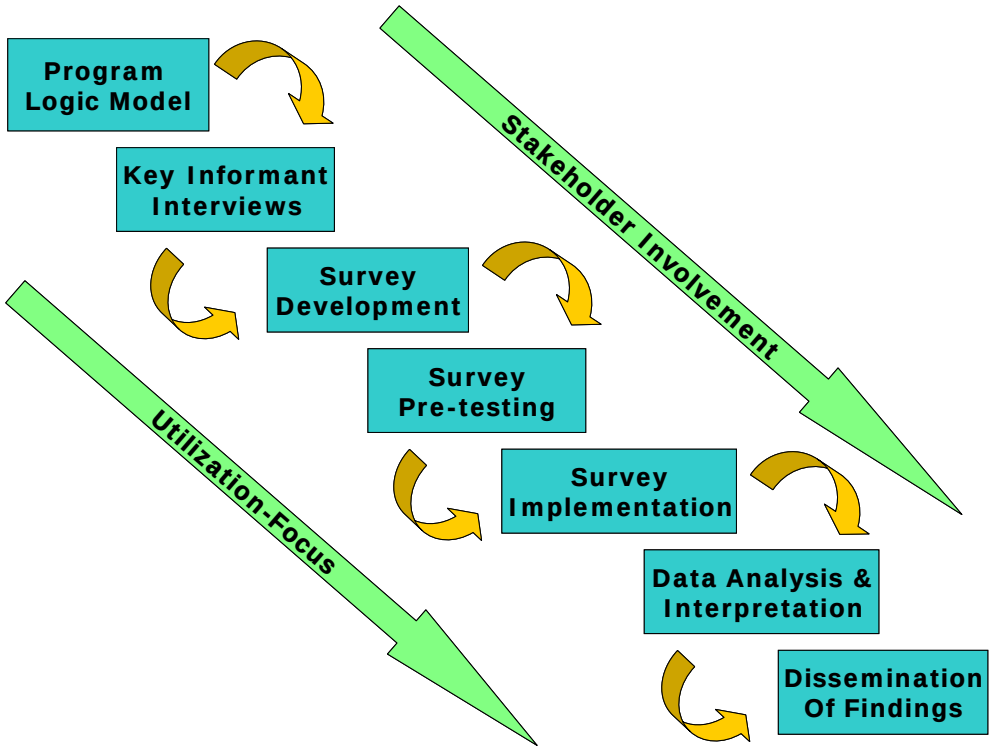

Figure 3.1: Summary of Study Methods

3.1. Setting

This study was conducted in the Canadian province of Saskatchewan which has a population of just under one million people.[41] The province has a cancer centre in each of its two largest cities, Regina and Saskatoon. The direct costs of cancer care are covered by Saskatchewan's publicly-funded health care system. FBM is the only program of its kind in Canada.

3.2 Study Design

A cross-sectional design was used to address the research questions posed in Chapter 1. Cross-sectional survey designs allow researchers to assess aspects of a population at a single point in time. They assist in seeking explanations by examining the frequency of events and correlations between the variables of interest. Based on the study's research questions, a cross-sectional survey design was chosen as the most appropriate method for assessing the physicians' views on FBM.

3.3 The Study Population

The population surveyed was comprised of physicians following cancer patients through FBM as listed in the SCA's database on May 19, 2005, with the exception of those in the following specialties: psychiatry, anesthesiology, physical medicine, lab specialties and diagnostic radiology. These specialties were excluded as such physicians do not normally follow cancer patients. Physicians who took part in pre-testing the survey were also excluded. Those physicians in general or family practice and surgeons made up the population of surveyed physicians. The survey was sent to 987 physicians. This was 97.0% of all practitioners providing community-based follow-up care.

3.4 Cancer Agency Evaluation Committee

The Saskatchewan Cancer Agency formed an evaluation committee to help direct the evaluation. The committee was comprised of two oncologists, two epidemiologists, two directors of health records and the director of the Saskatchewan Cancer Registry. The committee met as needed during the course of the evaluation. Two key contact persons from this committee assisted me in making logistical and day-to-day decisions regarding the project. Decisions regarding issues such as the focus of the evaluation, the content of the questionnaire and interpretation of the data were made at committee meetings or via email correspondence with committee members.

3.5 Intended Use of Evaluation Results

Helping intended users be intentional about the evaluation's use through the project's design phase can significantly increase the degree of influence the evaluation will have.[7] As part of his utilization-focused approach, Patton recommends that evaluators ask intended users to be clear about the decisions the evaluation is expected to influence.[7] As users articulate this type of information, the evaluator discovers their expectations, negotiates a shared understanding of use and helps form commitments to use.

Although the SCA evaluation committee exhibited a strong interest in the evaluation results from the start, I met with the evaluation committee to formally establish the evaluation's intended use. A number of questions were discussed in the early planning stages of the project, including:

- What are we hoping to accomplish?
- What decisions, if any, are the evaluation findings expected to influence?
- When will decisions be made? Is there any sense of urgency? Who will make the decisions? When must the evaluation findings be presented to be timely and influential?
- What is at stake in the decisions? For whom? Are there any controversies or issues surrounding the decisions?
- How much influence do you expect the evaluation to have?[7]

The committee's responses to these questions helped focus the evaluation. This process also facilitated the group in anticipating some of the sensitivities around the results and what might be done in response to less than optimal results.

3.6 Instrument Design

The development of the survey instrument involved a number of steps including the elucidation of the program's theory of action (program logic model), key informant interviews, input from the evaluation committee and survey pre-testing. The following describes the process of questionnaire design.

3.6.1 Program Logic Model

A preliminary step in the design phase of this study was to elucidate FBM's underlying program theory or theory of action. Program theory has been defined as "the construction of a plausible and sensible model of how a program is supposed to work."[42]

The process of describing program theory involves the identification of "all the important program functions that must be performed for the program to operate as intended."[6] Due to the complexity of the types and varieties of relationships between all program elements such as events, persons and functions, evaluators often create charts or graphical displays called *logic models* to describe programs.[6]

In this case, a program logic model communicating the program's intended components, activities, outputs and outcomes was developed in association with key stakeholders at the SCA. The development of the logic model was an important step as the "explicit conceptualization of the [program's] chain of events" [43] assisted the evaluator to "draw out the implicit knowledge"[6] of SCA personnel. This process allowed the evaluation team to come to a common understanding of the program and helped ensure that all areas within the scope of the project requiring investigation were addressed. Appendix A provides a depiction of FBM's program theory.

As mentioned, the program was described in terms of its components, activities, outputs and outcomes. *Activities* are all the action steps needed to generate program outputs and *components* are major groupings of activities.[44] *Outputs* include the products and services provided.[44] They are the evidence that the activities occurred. *Outcomes* are "the changes or benefits resulting from activities and outputs."[44]

The program was broken down into three main components, namely *enrolment of patients*, *FBM letter mail-out* and *processing of completed FBM letters* with the activities, outputs and outcomes listed beneath. Some of the assumptions implicit in the program's chain of events are provided in dark grey polygons. Each research question, apart from physicians' overall assessment of the usefulness of the program, was associated with one or more aspects of the second component of the program.

3.6.2 Key Informant Interviews

Key informant interviews were conducted to inform the development of the survey instrument (Appendices B and C). Key informants were two SCA oncologists, three general practitioners and one specialist surgeon. These interviewees were individuals whose professional positions gave them unique perspectives on the program and their interactions with it.[6]

Variety in key informants' backgrounds based on geographic location and specialty was desirable because the informants' contributions were expected to reflect different experiences and perspectives. Of the three general practitioners, one worked in an urban setting, one in a rural setting and one in a Northern Saskatchewan city. The oncologists and community-based surgeon all practiced in metropolitan areas.

Semi-structured interview guides with open-ended questions were used to allow for focused, conversational, two-way communication.[45] The guides included questions that were being considered for the survey and others which helped the evaluator understand more about physicians' interactions with FBM. Interviews took place in or near physicians' offices or by phone and lasted between 35 and 60 minutes.

Interviews revealed areas of follow-up care that were important to physicians and assisted the evaluation committee in understanding potential responses to survey questions. Feedback on the wording of questions, response options and domains of questioning was considered during the modification of the survey. As a result of the interviews, a number of survey questions were added, excluded and modified.

3.6.3 Survey Pre-testing

Pre-testing of the survey package to be mailed to physicians was conducted before large-scale survey distribution. This process was intended to address problems or concerns that could arise for respondents from the time of first contact with the survey package to the mailing of the questionnaire back to the Cancer Agency.

Pre-testing occurred in two stages. To start, a draft of the questionnaire was reviewed by members of the SCA's evaluation committee and my thesis supervisor. This process was designed to obtain feedback based on an in-depth knowledge of FBM, physician relations and past evaluation experience.[46] The first stage answered questions such as 'Have all of the necessary questions been included?', 'Can any questions be removed?' and 'Does the wording of any questions need to be changed?'[46]

Semi-structured pre-test interviews of four physicians (three general or family practitioners and one specialist) who had a history of providing follow-up cancer care comprised the second stage of pre-testing (Appendix D). This stage was meant to answer questions like 'Are all the words understood?', 'Are respondents likely to read and answer each question?', 'Is useful information obtained from open-ended questions?' and 'Does

the mailing package create a positive impression?'[46] Interviews with physicians, taking approximately 30 minutes, were conducted in or near physicians' offices. Physicians completed the questionnaire in 11 to 15 minutes.

During these interviews, physicians were handed a survey package and were asked to complete the questionnaire as they would if it had been mailed to them.[46] The survey package included a cover letter, questionnaire, sample FBM letter and a return envelope. Physicians were requested not to ask me any questions during this time. I observed physicians as they filled out the questionnaire and noted any skipped questions, facial expressions and hesitations. After interviewees finished the survey, they were asked about any perceived problems. Feedback was also solicited regarding the appropriate use of terms, length of time to complete and organization of the questionnaire.

A number of changes were made to the survey package based on the feedback received during pre-testing. Initially, an envelope with a clear window was used to avoid the use of address labels; however, during the first pre-testing interview, the physician fumbled with the contents of the survey package, first seeing the back of the FBM letter. This led to a change in both the type of outgoing envelope used and the folding of the envelope's contents.

A number of comments were received about the excessive lengths of the cover letter and questionnaire. In addition, open-ended questions were perceived to place a significant burden on respondents. As a result, both the cover letter and questionnaire were shortened. Other changes included the rewording of questions to make them clearer, putting part of a question in capital letters for emphasis, adding an example of practice guidelines to the back of the sample FBM letter and adding response options to a number of open- and closed-ended questions.

3.6.4 Preparing for Use

Patton suggests that "reviewing objectives and establishing precise standards of desirability just before data collection increases the likelihood that judgment criteria will be up to date, realistic and meaningful."[7] This process has also been found useful in alerting evaluation teams to the data they need in order to make sense of and act on results. Before data collection, the evaluation committee was asked to consider the levels of survey

responses at which the program would be considered 'highly effective' and 'merely adequate,' allowing the team to distinguish excellence from adequacy.

3.6.5 Validity and Reliability

A measure's validity is evidenced in how well it captures the concept it is intended to measure.[7] Reliability, on the other hand, has to do with the consistency of the measure.[7] With a reliable measure, the same results can be achieved time after time as long as the situation stays the same.[7]

The validity and reliability of the questionnaire used in this study were not established. Using an instrument which has not been subjected to an analysis of its psychometric properties can be problematic; however, the concepts addressed by the survey were considered straightforward. Consultation with program and evaluation experts, a review of the literature, the interviewing of key informants and pre-testing the survey were steps used to minimize concerns about the validity and reliability of the survey tool.

3.6.6 Steps to Achieve a Satisfactory Response Rate

The tailored design method of Don Dillman was followed closely during this study in an effort to maximize the survey's response rate.[46] His method involves careful attention to every aspect of survey development and implementation so that most people are motivated to participate and inaccurate or inadequate answers are minimized. Dillman uses social exchange theory as a foundation for ensuring design decisions create an effective overall survey strategy. This theory takes knowledge about human behaviour and uses it to understand why certain people respond to surveys and others do not. Quality self-administered survey designs are based on two key assumptions: 1) response to a self-administered questionnaire involves both cognition *and* motivation and 2) multiple contacts with potential respondents are crucial to attaining satisfactory response rates.

The first assumption acknowledges that people must understand clearly what is being requested and even more, must be motivated to go through the process of answering each question and returning the questionnaire to the surveyor.[46] The second assumption represents the most persistent finding from research on improving response rates. Repeated correspondence means that there are a number of chances for help people understand what is being asked of them as well as to influence them to complete the actions requested. As a

result, each contact is meant to act as a new and unique stimulus to serve its role in the survey's overall system of implementation.

According to social exchange theory, three factors are very important for predicting a given action: rewards, costs and trust.[46] *Rewards* are what a person expects to get from an activity, *costs* are what one has to relinquish in order to obtain the rewards and *trust* is the expectation that over time the rewards of participation in an activity will be more substantial than the costs. As a result, the surveyor must try to enhance the perceived rewards and minimize the costs while at the same time gaining the potential respondents' trust so the rewards of responding will outweigh the costs.

There are many ways one can attempt to affect the reward, cost, and trust matrix. Research shows that prepaid financial incentives, personalization (e.g., name on a cover letter) and special contacts such as the use of certified mail, multiple contacts and short questionnaires tend to increase response rates.[46-48] Other items that seem to positively influence responses are stamps on return envelopes and prenotification of the survey by phone call from the principal investigator or a physician.[47, 48] Efforts that do not appear to enhance response rates among physicians are: non-monetary incentives and prenotification by mail.[47, 48]

Numerous steps were taken to achieve a satisfactory response rate in this study. Before the questionnaire was created, key informant interviews with physicians and consultations with experts on FBM helped me better understand physicians' experiences with the program and the issues that were important to physicians and the SCA. Discussions with an expert in evaluation were also key in designing the study for optimal utility and acceptability to respondents. After much consideration of the information collected at this stage and a review of the literature, I developed a list of possible survey questions. Once the list of questions was narrowed down through discussions with the evaluation committee, the phrasing of each item was more closely examined. Questions were formulated to be concise, technically accurate, applicable to physicians' practices and nonjudgmental. In addition, questions were written so that it would be reasonable to expect that respondents could recall the answers and that each respondent could indicate the answer they wanted to give.

The questionnaire was designed to have a certain visual appeal, show positive regard for participants and provide clear mechanisms for navigating the questionnaire. Some of the methods used to make the questionnaire visually pleasing were to print the survey on a heavy weight, light grey paper, to use italics, underlining and capitalization of words sparingly and in a consistent way, to place response options closer to their related questions than to other questions and to have a simple cover page. The inconvenience of participating was also minimized by making the questionnaire appear as short and easy as possible. This appearance was achieved by using open-ended questions sparingly, printing the questionnaire as a double-sided booklet and requesting a limited amount of personal information from respondents. Positive regard for participants was shown by asking for their advice, thanking them for their participation, having an "other" category as a response option and including open-ended questions so they were not always constrained by selected response options. To help respondents make their way through the survey, I made good use of white space, avoiding clutter. For questions with two or more parts, arrows clearly indicated whether or not subsequent parts of the question needed to be answered. Question and page numbering was also consistent throughout and was not dependent on the sections of the questionnaire.

Other aspects of the questionnaire used to intentionally enhance response rates were: the order of survey questions, the survey implementation process, the construction and contents of survey packages and addressing potential privacy concerns. For example, the most interesting questions were placed at the beginning of the questionnaire and potentially sensitive questions were reserved for later on in the questionnaire.

With respect to the survey implementation process, the timing of each survey component was purposeful. A number of unique and complementary contacts were made with physicians. For example, a prenotification article appeared in the monthly newsletter of the provincial medical association about one week before the first questionnaire was sent out. This was done to raise awareness of the survey among physicians so they knew what the questionnaire was about when it arrived. Another part of the implementation process which likely impacted response rates was the effort made to locate physicians whose addresses had changed as a result of moves within the province.

The survey packages were constructed with response rates in mind. Since physicians normally received FBM letters from the Cancer Agency, the same outgoing envelopes were used for the survey packages. It was thought that familiarity with the envelope might influence whether or not it got opened. The folding of the package's contents was done carefully so that all items came out together and so the cover letter was the first item viewed. A sample copy of the FBM letter was provided to create a common reference point for answering the survey questions. Stamps were placed on return envelopes since stamps have been shown to improve response rates when compared to using business reply envelopes.[46] In addition, the cover letter sent with the second mailing of the questionnaire was more strongly worded than the first cover letter, providing a new stimulus for recipients. It was intended to give the impression that the time to respond was running out.

Privacy concerns were of the utmost importance in this study and are discussed in section 3.11. Briefly, the first cover letter aimed to alleviate potential privacy concerns by explaining the use of four-digit identifiers on return envelopes, state the purpose of the study, emphasize the study's potential impact on patient care, provide contact information for the SCA and the researchers involved and offer a summary report of results. In addition, cover letters were signed by the executive director of the cancer centres and the SCA's logo and return address were used to increase the perceived legitimacy of the project.

3.7 Questionnaire Distribution and Data Collection

Mailings and notifications regarding the survey were made to potential respondents on the following dates in 2005:

- Prenotification First week of June
- First survey June 13
- Reminder letter June 20
- Second survey July 4

The first mail-out of the questionnaire was preceded by prenotification of the survey via an article in the Saskatchewan Medical Association's monthly newsletter, *SMA News*. Survey packages were subsequently sent out to 987 physicians within a week of the prenotification article's publication. The survey package included a detailed cover letter,

the questionnaire, a sample FBM letter and a self-addressed stamped return envelope. A thank you/reminder letter was then sent to all physicians one week after the first survey package went out. This letter expressed appreciation for returned surveys and the hopes that unreturned questionnaires would soon be completed and returned. For the mailing of the second survey package, a modified cover letter along with a replacement questionnaire was sent three weeks after the first survey to physicians who had not yet responded.

Surveys were printed as double-sided booklets and were sent in three different fonts which were used to differentiate physicians based on the relative number of follow-up patients they had (i.e., low, intermediate or high). To determine the number of patients defining the low, intermediate and high categories, physicians' names were sorted based on the absolute number of their FBM patients. Physicians were then divided as evenly as possible into three groups. The first third of physicians had one to seven FBM patients (i.e. low category), the second group had eight to twenty-two patients (i.e. intermediate category) and the final group had twenty-three or more FBM patients (i.e. high category). All envelopes for outgoing mailings included the SCA's return address, the participant's address and metered postage. Cover letters were signed by the executive director of the Saskatoon Cancer Centre and were on SCA letterhead. Completed surveys were returned in self-addressed stamped envelopes to the evaluator care of the Saskatoon Cancer Centre. Efforts were made to get accurate mailing information for undeliverable survey packages.

3.8 Data Entry

Data from completed questionnaires was entered into Epi Info™ and later transferred into SPSS™ 10.0. The data entry template and the entering of data were completed by health records personnel at the SCA and myself. Restrictions were placed on the types of values that could be entered to enhance the accuracy of the data. Special codes were assigned for missing data and atypical responses. A spreadsheet of issues arising during data entry was kept, which I later addressed on an individual basis.

3.9 Data Cleaning and Checking

Upon completion of data entry, the data were checked visually for obvious errors. Summary reports for each variable were produced listing the frequencies of responses, minimum and maximum values, atypical answers and missing data. Data for certain variables were assessed for consistency with previously answered questions. To identify

any further errors, a 10% random sample of data was drawn and checked for accuracy against hard copies of respondents' questionnaires. Data were subsequently rechecked and any errors were corrected.

3.10 Data Analysis

Statistical analyses were performed using SPSS™ 11.0.

A subset of the data collected is described in Chapter 4 to address the research questions listed in section 1.6. Descriptive analyses are provided for survey questions related to physicians' overall impression of FBM (survey questions 2, 4, 5, and 23), physicians' information and training needs (survey questions 10-12) and physicians' confidence in their skills for providing follow-up care (survey question 9). A comprehensive and descriptive report was submitted to the SCA including the findings for all survey questions.

Demographic variables and other variables of importance, as determined through a review of the literature and consultation with experts, were analyzed using chi-square and t-tests (bivariate analysis), depending on the type of variable, to determine independent factors associated with physicians' needs for additional patient information, clinical information and training and physician confidence for following various cancers. All variables associated with the outcome variables ($p < 0.25$) in the bivariate analysis were entered into a multiple logistic regression model (multivariate analysis). Variables that had significant associations ($p < 0.10$) with the dependent variable in the preliminary regression analysis were then re-entered into the analysis and a final model of independent correlates was obtained. The type I error rate or significance level for the final logistic regression analysis was set at $\alpha = 0.05$.

In logistic regression analysis, the interest is in estimating the probability of predicting the value of the dependent variable as a function of a number of independent correlates or predictors. Logistic regression allows researchers to identify variables correlated to the dependent variable which help predict the outcome of interest when the dependent variable is dichotomous.[49] Independent variables may be continuous or categorical. This method of analysis can also be used to determine the relative importance of the independent variables and assess interaction effects.

Using maximum likelihood estimation, logistic regression adjusts for the estimated effects of each independent variable for differences in the distributions of other independent variables and associations among other independent variables. Adjusted odds ratios, which adjust for all other independent variables in the regression model, are used to express the strength of the association between independent variables and the dependent variable.

This method of analysis was used for the outcome variables regarding physicians' information and training needs since they were dichotomous, that is, possible responses to the relevant survey questions were 'yes' and 'no'. For outcome variables on physician confidence, the desired response was 'very confident'. All other responses, excluding 'not applicable', were considered less favorable and were grouped into the category 'less than very confident', making these outcome variables dichotomous. In addition, for each outcome variable, numerous independent variables were being considered for their relative roles in predicting the outcomes of interest.

A number of variables were re-classified for the bivariate and multivariate analyses (Table 3.1). For questions relating to physicians' needs for additional patient information, clinical information and training, a composite measure of physician confidence was constructed to be used as an independent variable in the regression analysis. To calculate this composite measure, responses to individual questions on physician confidence were assigned values as follows: "very confident" = 1, "somewhat confident" = 2, "somewhat unconfident" = 3 and "very unconfident" = 4. Scores for each of the questions on confidence were summed, then divided by the number of confidence questions answered. This produced an average measure of physician confidence and is referred to in the regression models as "physician confidence." Responses of "not applicable" were not included in this calculation.

Table 3.1: Re-classified variables for bivariate and multivariate analyses

Category	Original Variable	New Variable
Number of physicians in primary medical office	Continuous (number of physicians)	1. Solo practice 2. Small group practice 3. Medium group practice 4. Large group practice
Physician confidence (for individual cancers)	1. Very confident 2. Somewhat confident 3. Somewhat unconfident 4. Very unconfident	1. Very confident 2. Less than very confident
Physician confidence (overall average)	Separate responses for each of 6 questions on physician confidence by cancer type	Average score calculated from responses to each of 6 questions on physician confidence
Program usefulness	1. Very useful 2. Somewhat useful 3. Neutral 4. Not very useful 5. Not useful at all	1. Very or somewhat useful 2. Neutral 3. Not very useful or not useful at all

Written comments for the open-ended components of questions 10 to 12 underwent content analysis. This method is widely used for analyzing such data.[50] I read the responses repeatedly without seeking predetermined categories or themes in order to immerse myself in the data.[51] Recurring themes were subsequently drawn out of the data.

3.11 Ethical Considerations

Ethical approval for this study was obtained from the University of Saskatchewan Behavioural Research Ethics Board (Appendix K). Members of the survey population were informed about the project's purpose, the nature of participation, the time commitment involved, the intended use of the information collected and the anticipated benefits of the project. Consent to participate was implied with the return of the questionnaire.

Privacy concerns were of the utmost importance during this project. Concerns around confidentiality and anonymity were considered key in influencing survey response rates, the quality of survey data and physicians' perceptions of both the evaluation and the

Cancer Agency. As a result, the evaluation's methodology was closely tailored to the needs of the primary intended users, study participants and the evaluator.

A number of steps were taken to alleviate potential privacy concerns of respondents. For example, the cover letter included in the first survey package explained the use of the unique four-digit identifier on return envelopes as being for mailing purposes only. These identifiers allowed me to remove respondents from a subsequent mailing list. This ensured that only those who did not respond to the first copy of the survey would be sent a second copy and that the SCA itself would not be able to link individual survey responses to a particular physician. Physicians were informed that the file linking participants' names and addresses to identifiers would be destroyed after the last mailing was complete and that data would only be presented in aggregate form. As a result, survey responses were confidential, but not anonymous. Respondents were invited to contact the Office of Research Services, the SCA or the researchers involved with any questions they had. To acknowledge respondents' contributions, a summary of the study's results was offered upon request. The authority of the SCA, the involvement of an external evaluator and limiting requests for personal information were some of the other ways in which potential privacy concerns were handled.

CHAPTER 4

RESULTS

This chapter begins by stating the survey's response rate and participant characteristics, followed by a report of the study's findings as they relate to the research questions found in Section 1.6.

4.1 Response Rate

The survey was sent to 987 general and family practitioners and specialists who provide follow-up cancer care. A general practitioner (GP) is a physician with a general license to practice medicine in Saskatchewan while family practitioners have a Certificate from the College of Family Physicians of Canada in addition to this license. For ease of reporting, those physicians indicating they were GPs or in family practice are herein referred to as GPs, since physicians in family practice more appropriately fit into the category of *GPs* than GPs being included in a *family practice* category. It was found that 36 physicians had moved out of province or could not be located, 8 were no longer licensed, 6 had retired, 5 were on leave and 7 were not eligible to participate for other reasons. Of the 925 eligible physicians, 486 or 52.5% responded to the survey. One survey was not included in the analysis as it was received several months after the cut-off date.

4.2 Participant Characteristics

Table 4.1 shows various characteristics of the responding physicians and compares them with the total population of physicians providing community-based follow-up care when possible.

Table 4.1: Demographics Profile

Characteristic	% of Respondents (n)	% of All FBM Physicians (n)
Sex		
Male	70.5% (342)	-
Female	26.6% (129)	-
Did not specify	2.9% (14)	-
Specialty*		
General practice	73.4% (356)	77.0% (712)
Specialists	23.7% (115)	23.0% (213)
Did not specify	2.9% (14)	-
Number of follow-up patients**		
Low (1-7 patients)	25.8% (125)	33.5% (310)
Intermediate (8-22 patients)	34.8% (169)	32.1% (297)
High (23+ patients)	39.4% (191)	34.4% (318)
Years in clinical practice		
0 - 5 yrs	8.0% (39)	-
6 - 10 yrs	11.1% (54)	-
11 - 15 yrs	14.8% (72)	-
16 yrs+	63.3% (307)	-
Did not specify	2.7% (13)	
Years in clinical practice in Saskatchewan		
0 - 5 yrs	26.6% (129)	-
6 - 10 yrs	13.4% (65)	-
11 - 15 yrs	10.5% (51)	-
16 yrs+	46.8% (227)	-
Did not specify	2.7% (13)	-
Number of physicians in primary medical office		
Solo practice (1 physician)	21.9% (106)	-
Small group practice (2-4 physicians)	26.8% (130)	-
Medium group practice (5-7 physicians)	24.5% (119)	-
Large group practice (8+ physicians)	20.6% (100)	-
Did not specify	6.2% (30)	-
Location of practice		
Metropolitan (Regina or Saskatoon)	51.3% (249)	-
Urban (city of 10,000+, except Regina and Saskatoon)	19.2% (93)	-
Rural (city/town/village/hamlet of fewer than 10,000)	25.9% (126)	-
Did not specify	3.5% (17)	-

* For comparison of respondents and non-respondents, $X^2 = 1.045$, p=0.307
** For comparison of respondents and non-respondents, $X^2 = 28.03$, p<0.001

Over 70% (70.5%) of respondents were male. Almost three-quarters (73.4%) of respondents were GPs and over three-quarters (77.0%) of physicians in the total population of physicians providing follow-up care were GPs. Chi-square analyses showed no significant differences between respondents and non-respondents based on physician specialty ($p=0.307$).

Physicians with high numbers of follow-up patients represented 39.4% of respondents while 34.8% of respondents had an intermediate number of follow-up patients. One-quarter (25.8%) of responding physicians had low numbers of follow-up patients. Chi-square analyses revealed significant differences between respondents and non-respondents based on relative number of FBM patients ($p<0.001$). Over three fifths (63.3%) of respondents had been practicing for 16 years or more and 46.8% had been practicing in Saskatchewan for 16 or more years. Similar percentages of physicians were in solo practices and all sizes of group practices.

About half of respondents (51.3%) practiced in metropolitan centres while 25.9% worked in rural Saskatchewan and 19.2% worked in urban areas other than Saskatoon or Regina. Of the responding physicians in general practice, 47.3% worked in the metropolitan centres of Regina or Saskatoon, while 17.9% worked in urban, non-metropolitan areas and 34.8% worked in rural communities. Most responding specialists worked in metropolitan areas (71.9%).

4.3 Survey Findings

4.3.1 Overall perceptions of FBM

4.3.1.1 Program Usefulness

The majority (72.3%) of responding physicians felt the follow-up program was very useful to them as they provided follow-up care, while 19.2% thought it was somewhat useful (Figure 4.1). A small proportion of respondents thought the program was not very useful or not useful at all (1.3% and 1.1%, respectively).

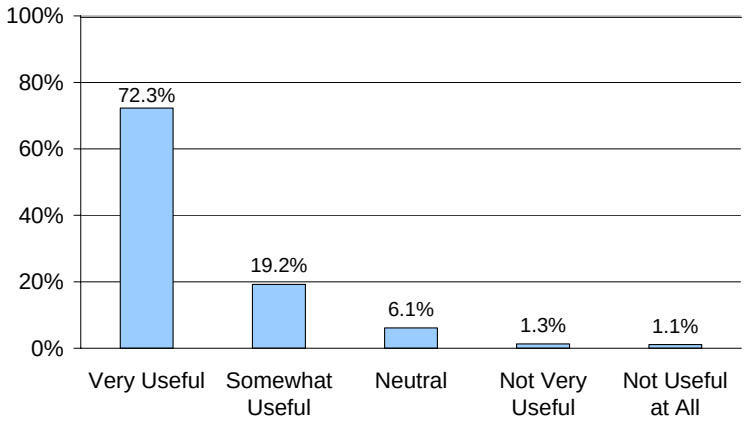

Figure 4.1: Usefulness of FBM Program (n=473)

4.3.1.2 Usefulness of FBM Letter as a Reminder

The follow-up letter was found to be a very important reminder for 72.0% of physicians to see their cancer patients for follow-up and a somewhat important reminder for 18.2%. The letter was somewhat unimportant for 1.7% of physicians and very unimportant for 2.3% of physicians. A small percentage (5.8%) of physicians was neutral about whether or not the letter was an important reminder.

4.3.1.3 Information on the Timing of Follow-up Tests and Procedures

Of all respondents, 26.7% said FBM letters were always clear about the timing of tests and procedures to be done during the follow-up phase of care and 48.2% said FBM letters were usually clear in this regard. Fifteen percent said the timing of tests and procedures was sometimes clear, 6.7% said the timing was rarely clear and 3.3% said it was never clear.

4.3.1.4 Content of Follow-up Letters

Excluding those who were not sure about their level of satisfaction, 44.9% of respondents said they were very satisfied with the content of follow-up letters. Two fifths (40.4%) of respondents were somewhat satisfied while 2.4% and 0.6% were somewhat and very dissatisfied, respectively. Just over one tenth (11.8%) of respondents were neither satisfied nor dissatisfied with the content of the letters.

4.3.2 Physicians' Information Needs

4.3.2.1 Need for Additional Patient Information

Three fifths of physicians (59.3%) said they needed additional patient information to do follow-up. Respondents saying they needed more patient information were asked to indicate the types of information that would be helpful for them as they provided follow-up care. Physicians most wanted the patient's prognosis (87.9%), followed by the last known cancer status (55.0%), cancer type (43.2%) and "other" patient information (19.6%).

The most frequent response specified under the "other" category accounted for 40% of such responses and related to the need for a clear follow-up plan including items such as the required follow-up bloodwork and tests and their timing or frequency. Other responses related to the desire for copies of laboratory and investigative reports, clinical practice guidelines and patient histories from the time patients attended a cancer clinic, including treatments received, referrals and test results.

Table 4.2 shows the bivariate associations between physician-related variables and the outcome variable, the need for additional patient information. Variables with p-values of less than or equal to 0.25 for at least one response option were retained for inclusion in subsequent multivariate regression models. All variables tested qualified for further analyses except years in clinical practice.

Table 4.2: Bivariate associations between physician-related variables and the need for additional patient information

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	2.046	1.314, 3.186	0.002
Number of follow-up patients			
Low	REF		
Intermediate	0.875	0.536, 1.427	0.592
High	0.598	0.373, 0.959	0.033
Specialty			
General practice	REF		
Specialists	0.370	0.240, 0.570	<0.001
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	1.101	0.455, 2.666	0.831
11 - 15 yrs	0.799	0.351, 1.817	0.592
16 yrs+	0.666	0.328, 1.351	0.260
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.529	0.283, 0.987	0.046
11 - 15 yrs	0.542	0.276, 1.063	0.075
16 yrs+	0.471	0.296, 0.750	0.002
Number of physicians in primary medical office			
Solo practice	0.547	0.311, 0.036	0.036
Small group practice	1.377	0.790, 2.401	0.259
Medium group practice	0.960	0.553, 1.669	0.885
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	2.023	1.213, 3.376	0.007
Rural	1.625	1.043, 2.531	0.032
Program usefulness			
Very or somewhat useful	2.304	0.640, 8.285	0.201
Neutral	1.125	0.259, 4.893	0.875
Not very useful or not useful at all	REF		
Physician confidence*	n/a	n/a	<0.001

*A t-test was performed for this variable. All other variables underwent chi-square tests.

Continuing from an investigation of bivariate associations and preparing for regression analysis, the next step in analyzing the data was to check for interactions between potential correlates. Using the log-likelihood ratio test (LRT), an interaction

effect was seen between the variables 'number of physicians in primary medical office' and 'location of practice.' As a result, a first-order interaction term was included in the subsequent regression analysis.

The final step was to perform the regression analysis. Variables selected through the bivariate analysis plus the interaction term were entered into the regression model. Those variables that had a significant association ($p < 0.10$) with the need for additional patient information were then re-entered into the regression analysis and a final model was obtained. Correlates in the final model were required to have p-values of less than 0.05.

Table 4.3 depicts the final regression model. The model included: physician sex, physician specialty, number physicians in primary medical office, location of practice, physician confidence and the interaction term between the number of physicians in the primary medical office and location of practice.

Table 4.3: Final multivariate model showing the relationship between physician-related variables and the need for additional patient information

Variable	OR_{adj}	95% CI	p-value
Sex			
Male	REF		
Female	2.043	1.237, 3.373	0.005
Specialty			
General practice	REF		
Specialists	0.490	0.276, 0.871	0.015
Number of physicians in primary medical office			
Solo practice	REF		
Small group practice	1.314	0.571, 3.023	0.520
Medium group practice	0.509	0.157, 1.652	0.261
Large group practice	0.318	0.073, 1.3383	0.127
Location of practice			
Metropolitan	REF		
Urban	1.041	0.422, 2.565	0.931
Rural	0.398	0.110, 1.446	0.161
Interaction term	1.351	1.039, 1.756	0.025
Number of physicians in primary medical office x Location of practice			
Physician confidence	1.668	1.136, 2.448	0.009

The associations between the need for additional patient information and the variables 'number of physicians in primary medical office' and 'location of practice' were not interpreted independently since an interaction effect was observed between the latter two variables. As a result, the nature of the relationship between the dependent variable and physicians' location of practice was contingent on the number of clinicians in the physicians' primary medical office. Similarly, the nature of the relationship between the dependent variable and the number of physicians in the primary medical office depended on physicians' location of practice (Figure 4.2). The most linear relationship between the need for additional patient information and the number of physicians in the primary practice was seen for rural physicians. As the number of physicians in a rural practice increased, the need for additional information tended to increase. The highest percentages of metropolitan and urban physicians needing more information were in small group practices. Of all groups, the lowest reported need for additional patient information was among solo practice physicians in rural and metropolitan areas.

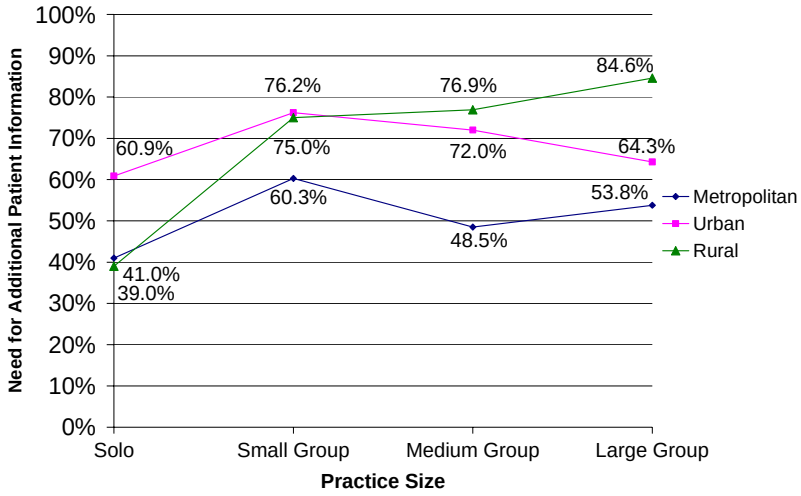

Figure 4.2: Need for Additional Patient Information by Practice Size and Location of Practice

4.3.2.2 Need for Additional Clinical Information

Almost three quarters (73.0%) of physicians said additional clinical information related to follow-up would help them improve their practice of follow-up. Physicians

who felt additional clinical information would assist them were asked which subject areas of information would be most important to them. Due to some irregularities in the way responses were given, subject areas were analyzed not by rankings as planned but rather as yes/no responses.

Clinical practice guidelines were chosen by 78.2% of respondents as the most needed subject of clinical information, followed by drug information (67.4%), timing of bloodwork (57.9%), advances in cancer treatments (52.9%), managing the psychosocial needs of patients (26.8%) and 'other' (2.1%).

Physicians desiring more clinical information were also asked which information sources would be most preferable to them. For this question, respondents were asked to rank various possible information sources with '1' indicating the most useful source, '2' indicating the second most useful source and so on. A number of physicians, however, responded using checkmarks. Due to these irregularities in the way responses were provided, only ranked responses were used in the analysis unless only one checkmark was made, in which case the checkmark was accepted as a 'number one' ranking.

The 'number one' ranked information sources for clinical information were printed materials (41.5%), continuing medical education (39.2%), a resource person (10.3%), online resources (8.4%) and "other" (0.6%). The 'number two' ranked information sources were printed materials (30.1%), continuing medical education (29.3%), online resources (23.2%) and a resource person (17.4%).

Table 4.2 shows the bivariate associations between physician-related variables and the outcome variable, the need for additional clinical information. All variables, except number of follow-up patients, exhibited p-values of less than or equal to 0.25 and, as a result, were retained for further analyses.

Table 4.4: Bivariate associations between physician-related variables and the need for additional clinical information

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	4.750	2.513, 8.978	<0.001
Number of follow-up patients			
Low	REF		
Intermediate	1.028	0.597, 1.770	0.922
High	0.783	0.466, 1.315	0.354
Specialty			
General practice	REF		
Specialists	0.242	0.153, 0.381	<0.001
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	1.069	0.360, 3.173	0.904
11 - 15 yrs	0.569	0.216, 1.496	0.253
16 yrs+	0.516	0.220, 1.213	0.129
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.709	0.340, 1.476	0.358
11 - 15 yrs	0.475	0.226, 0.999	0.050
16 yrs+	0.452	0.266, 0.770	0.003
Number of physicians in primary medical office			
Solo practice	0.420	0.223, 0.791	0.007
Small group practice	1.136	0.586, 2.204	0.705
Medium group practice	0.698	0.369, 1.321	0.269
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.923	1.087, 3.404	0.025
Rural	1.861	1.119, 3.095	0.017
Program usefulness			
Very or somewhat useful	4.431	1.227, 15.996	0.023
Neutral	2.182	0.497, 9.583	0.301
Not very useful or not useful at all	REF		
Physician confidence*	n/a	n/a	<0.001

*A t-test was performed for this variable. All other variables underwent chi-square tests.

Following the bivariate analysis, variables were assessed for interaction effects. Using the previously described method (see section 4.3.2.1), interactions were seen

between the following pairs of variables: number of physicians in primary medical office and location of practice; number of physicians in primary medical office and physician specialty; and physician sex and specialty. As a result, three first-order interaction terms were submitted to the regression analysis.

Table 4.5 depicts the final logistic regression model. The model included: physician sex, physician specialty, number physicians in primary medical office, location of practice, physician confidence and two first-order interaction terms. One interaction term was between the number physicians in primary medical office and location of practice. The other interaction term was between physician sex and specialty.

Table 4.5: Final multivariate model showing the relationship between physician-related variables and the need for additional clinical information

Variable	OR_{adj}	95% CI	p-value
Sex			
Male	REF		
Female	104.843	8.821, 1246.115*	<0.001
Specialty			
General practice	REF		
Specialists	5.555	0.781, 39.484*	0.087
Number of physicians in primary medical office			
Solo practice	REF		
Small group practice	1.264	0.461, 3.465	0.649
Medium group practice	0.301	0.076, 1.199	0.089
Large group practice	0.196	0.035, 1.110	0.065
Location of practice			
Metropolitan	REF		
Urban	0.973	0.329, 2.877	0.960
Rural	0.288	0.065, 1.270	0.100
Interaction term Number of physicians in primary medical office x Location of practice	1.533	1.104, 2.130	0.011
Interaction term Sex x Specialty	0.107	0.021, 0.545	0.007
Physician confidence	1.569	0.995, 2.476	0.053

* A three-way crosstabulation between the need for additional clinical information, sex and specialty revealed small cell sizes (<12) for three cells. This case is likely to be the cause of large confidence intervals for the independent variables sex and specialty.

As expected, the final regression analysis revealed that lower physician confidence was associated with a need for more clinical information. This finding was consistent with the association found between physician confidence and the need for additional patient information.

The associations between the need for additional clinical information and the variables 'number of physicians in primary medical office' and 'location of practice' were not interpreted independently since an interaction effect was observed between the latter two variables. The nature of the relationships between the dependent variable and these two variables was similar to that seen for the need for additional patient information (Figure 4.3). The lowest need for additional clinical information was again seen for solo practice physicians working in rural and metropolitan areas.

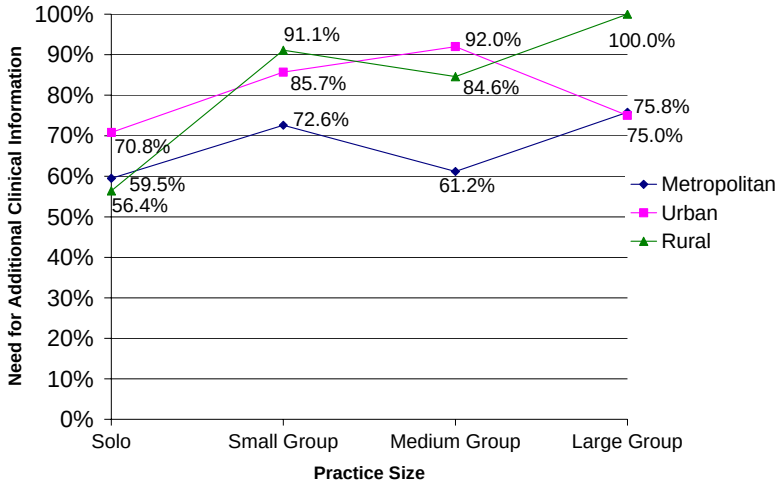

Figure 4.3: Need for Additional Clinical Information by Practice Size and Location of Practice

Associations between the need for additional clinical information and the variables 'sex' and 'specialty' were also not interpreted independently due to an interaction effect between sex and specialty. Female gender appeared to have a stronger influence on the relationship between the dependent variable and specialty than male gender, that is, the difference between the need for more clinical information for female GPs as opposed to specialists was greater than for male GPs and specialists (Figure 4.4).

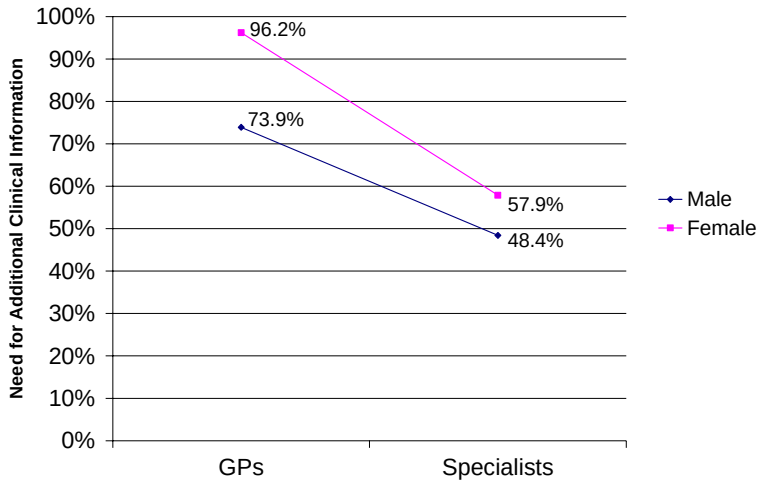

Figure 4.4: Need for Additional Clinical Information by Physician Sex and Specialty

4.3.2.3 Physicians' Training Needs

Over one third (34.9%) of physicians felt they needed more training on follow-up care. Physicians who needed training were asked to indicate the type of training they needed and the best way to deliver it. Ninety-three comments were analyzed for the subject areas physicians would like to see included in training initiatives. Over two fifths (43.0%) of physicians wanted to learn more about the plan for follow-up including such aspects as clinical practice guidelines, what is expected of the physicians providing follow-up care and the timing of bloodwork. About one fifth (21.5%) of physicians wanted more training on cancer treatments and 10.8% wanted more training regarding pharmaceuticals as they relate to cancer care. Additional training in managing patients' psychosocial needs and palliative care were of interest to 6.5% and 4.3% of physicians, respectively. For a complete analysis of respondents' comments, see Appendix L.

A total of 145 comments were analyzed for suggestions on the format of training sessions. Almost half (46.8%) of physicians wanted the training to be approved as continuing medical education sessions while similar percentages of physicians wanted seminars/lectures, online training and printed materials at 15.9%, 13.8% and 12.4%, respectively. Less than one tenth (8.3%) of respondents wanted the training to be in the form of courses. For a complete analysis of respondents' comments, see Appendix M.

Table 4.6 shows the bivariate associations between physician-related variables and the outcome variable, the need for additional training on follow-up care. All variables, except number of follow-up patients and program usefulness, exhibited p-values of less than or equal to 0.25. These variables were retained for further analyses. In addition, program usefulness was retained as the overall p-value for the variable was 0.145.

Table 4.6: Bivariate associations between physician-related variables and the need for additional training on follow-up care

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	1.871	1.220, 2.868	0.004
Number of follow-up patients			
Low	REF		
Intermediate	0.954	0.583, 1.560	0.850
High	0.757	0.467, 1.228	0.259
Specialty			
General practice	REF		
Specialists	0.141	0.073, 0.273	<0.001
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	0.656	0.279, 1.542	0.334
11 - 15 yrs	0.522	0.230, 1.183	0.119
16 yrs+	0.470	0.234, 0.944	0.034
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.461	0.242, 0.876	0.018
11 - 15 yrs	0.471	0.233, 0.950	0.035
16 yrs+	0.436	0.276, 0.690	<0.001
Number of physicians in primary medical office			
Solo practice	0.482	0.263, 0.885	0.019
Small group practice	0.861	0.497, 1.491	0.593
Medium group practice	0.889	0.507, 1.559	0.682
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.021	0.604, 1.725	0.939
Rural	1.762	1.120, 2.770	0.014
Program usefulness			
Very or somewhat useful	2.262	0.474, 10.790	0.306
Neutral	0.952	0.153, 5.942	0.958
Not very useful or not useful at all	REF		
Physician confidence*			<0.001

*A t-test was performed for this variable. All other variables underwent chi-square tests.

Table 4.7 depicts the final logistic regression model. The model included physician specialty and physician confidence. Interaction effects were seen between years

in clinical practice in Saskatchewan and location of practice as well as between years in clinical practice and location of practice; however, the interaction terms did not remain significant in the final model.

Table 4.7: Final multivariate model showing the relationship between physician-related variables and the need for more training on follow-up care

Variable	OR_{adj}	95% CI	p-value
Specialty			
General practice	REF		
Specialists	0.233	0.116, 0.468	<0.001
Physician confidence	2.734	1.875, 3.985	<0.001

4.3.3 Physician Confidence in Following Cancers

This section presents physicians' levels of confidence in their skills for following six cancers, namely, breast, colorectal, lung, prostate and gynecological cancers as well as lymphomas. The results of bivariate and logistic regression analyses are also provided. For the regression analyses, physicians' responses regarding confidence were grouped into two categories: very confident and less than very confident, with very confident as the desired response. Final regression models are reported for each cancer type. No interaction effects were observed between potential correlates.

4.3.3.1 Breast Cancer

Excluding those who said the question was not applicable to them, 54.2% of respondents said they were very confident they had the skills to do follow-up for breast cancer. Two fifths (40.8%) of physicians were somewhat confident while 4.0% were somewhat unconfident and 1.0% were very unconfident (Figure 4.5).

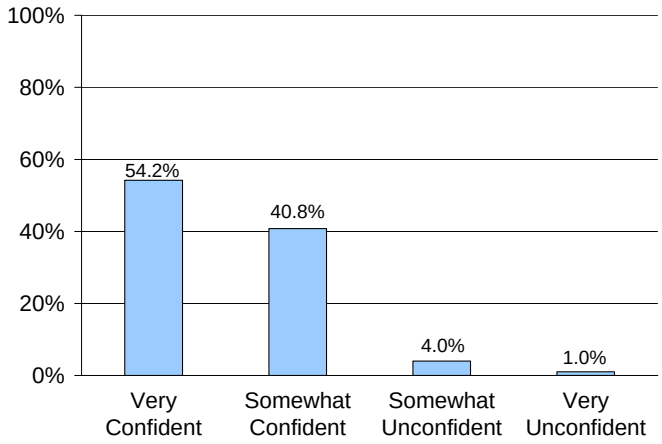

Figure 4.5: Physician confidence in following breast cancer (n=404)

Table 4.8 shows the bivariate associations between physician-related variables and the outcome variable, physician confidence in following breast cancer. All variables, except physician sex, years in clinical practice and location of practice, exhibited p-values of less than or equal to 0.25 and, as a result, were retained for further analyses.

Table 4.8: Bivariate associations between physician-related variables and physician confidence in following breast cancer

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	0.988	0.642, 1.520	0.955
Number of follow-up patients			
Low	REF		
Intermediate	0.640	0.377, 1.086	0.098
High	0.388	0.230, 0.655	<0.001
Specialty			
General practice	REF		
Specialists	0.315	0.156, 0.637	0.001
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	1.190	0.490, 2.893	0.700
11 - 15 yrs	0.771	0.333, 1.785	0.544
16 yrs+	0.778	0.380, 1.592	0.492
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.628	0.328, 1.200	0.159
11 - 15 yrs	0.599	0.292, 1.228	0.162
16 yrs+	0.601	0.378, 0.956	0.032
Number of physicians in primary medical office			
Solo practice	0.461	0.251, 0.847	0.013
Small group practice	0.757	0.438, 1.308	0.318
Medium group practice	0.692	0.394, 1.214	0.199
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.084	0.646, 1.820	0.759
Rural	0.958	0.606, 1.512	0.852
Need for additional patient information			
Yes	0.576	0.373, 0.892	0.008
No	REF		
Need for additional clinical information			
Yes	0.513	0.314, 0.840	0.008
No	REF		
Need for more training on follow-up			
Yes	0.406	0.268, 0.615	<0.001
No	REF		
Program usefulness			
Very or somewhat useful	0.412	0.075, 2.278	0.310
Neutral	0.450	0.066, 3.074	0.415
Not very useful or not useful at all	REF		

Table 4.9 depicts the final logistic regression model. The model included the number of follow-up patients, physician specialty and the need for more training on follow-up care. Physicians with greater numbers of FBM patients were more likely to be very confident in their skills for following breast cancer. Specialists were three times more likely to be confident in following breast cancer than GPs. In addition, physicians who needed additional training on follow-up care were 2.2 times more likely to be less than very confident.

Table 4.9: Final multivariate model showing the relationship between physician-related variables and physician confidence for following breast cancer

Variable	OR_{adj}	95% CI	p-value
Number of follow-up patients			
Low	REF		
Intermediate	0.576	0.327, 1.017	0.057
High	0.352	0.201, 0.617	<0.001
Specialty			
General practice	REF		
Specialists	0.327	0.150, 0.710	0.005
Need for more training on follow-up care			
Yes	2.204	1.430, 3.398	<0.001
No	REF		

4.3.3.2 Colorectal Cancer

Excluding those who said the question was not applicable to them, 44.3% of respondents said they were very confident they had the skills to do follow-up for colorectal cancer. This result was in the middle of the range of values seen for physician confidence among the cancers. Almost half (48.0%) of physicians were somewhat confident while 5.2% were somewhat unconfident and 2.5% were very unconfident (Figure 4.6).

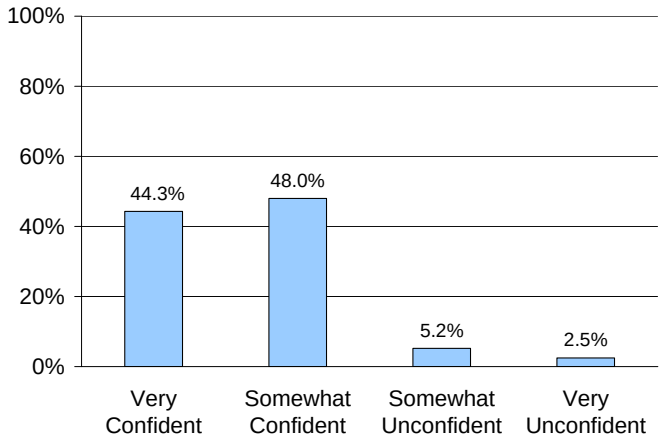

Figure 4.6: Physician confidence in following colorectal cancer (n=404)

Table 4.10 shows the bivariate associations between physician-related variables and the outcome variable, physician confidence in following colorectal cancer. All variables, except years in clinical practice, years in clinical practice in Saskatchewan, location of practice and program usefulness, were retained for further analyses.

Table 4.10: Bivariate associations between physician-related variables and physician confidence in following colorectal cancer

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	1.577	1.103, 2.455	0.044
Number of follow-up patients			
Low	REF		
Intermediate	0.687	0.395, 1.194	0.183
High	0.329	0.192, 0.566	<0.001
Specialty			
General practice	REF		
Specialists	0.178	0.086, 0.370	<0.001
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	1.146	0.462, 2.846	0.769
11 - 15 yrs	0.928	0.394, 2.183	0.864
16 yrs+	0.882	0.424, 1.835	0.736
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.738	0.386, 1.412	0.359
11 - 15 yrs	0.686	0.334, 1.409	0.305
16 yrs+	0.861	0.539, 1.375	0.532
Number of physicians in primary medical office			
Solo practice	0.446	0.241, 0.826	0.010
Small group practice	0.561	0.317, 0.993	0.047
Medium group practice	0.571	0.319, 1.023	0.060
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.118	0.659, 1.898	0.679
Rural	0.852	0.540, 1.342	0.489
Need for additional patient information			
Yes	0.535	0.354, 0.810	0.003
No	REF		
Need for additional clinical information			
Yes	0.439	0.273, 0.706	0.001
No	REF		
Need for more training on follow-up care			
Yes	0.373	0.243, 0.573	<0.001
No	REF		
Program usefulness			
Very or somewhat useful	0.633	0.115, 3.501	0.601
Neutral	0.500	0.072, 3.454	0.482
Not very useful or not useful at all	REF		

The final logistic regression model for physician confidence in following colorectal cancer included number of follow-up patients, physician specialty and the need for more training of follow-up care (Table 4.11). This model was the same as that for breast cancer, only this time specialists were over five times more likely than GPs to be very confident in their skills and physicians in need of additional training on follow-up were nearly 2.3 times more likely to be less than very confident in following colorectal cancer.

Table 4.11: Final multivariate model showing the relationship between physician-related variables and physician confidence for following colorectal cancer

Variable	OR_{adj}	95% CI	p-value
Number of follow-up patients			
Low	REF		
Intermediate	0.604	0.328, 1.113	0.106
High	0.274	0.151, 0.497	<0.001
Specialty			
General practice	REF		
Specialists	0.192	0.087, 0.422	<0.001
Need for more training on follow-up care			
Yes	2.256	1.434, 3.549	<0.001
No	REF		

4.3.3.3 Lung Cancer

Excluding those who said the question was not applicable to them, 35.5% of respondents said they were very confident they had the skills to do follow-up for lung cancer. This was a mid-range result with respect to the levels of physician confidence seen for the most common cancers. Over half (52.8%) of physicians were somewhat confident while 8.0% were somewhat unconfident and 3.7% were very unconfident (Figure 4.7).

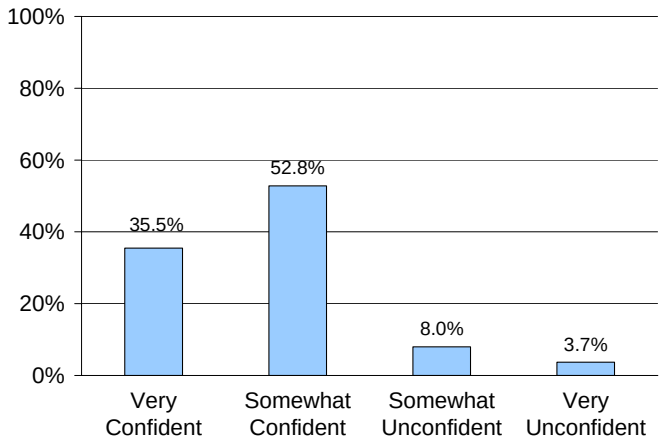

Figure 4.7: Physician confidence in following lung cancer (n=377)

Table 4.12 shows the bivariate associations between physician-related variables and the outcome variable, physician confidence in following lung cancer. All variables, except years in clinical practice, location of practice and program usefulness were retained for further analyses.

Table 4.12: Bivariate associations between physician-related variables and physician confidence in following lung cancer

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	1.719	1.061, 2.784	0.028
Number of follow-up patients			
Low	REF		
Intermediate	0.893	0.494, 1.613	0.707
High	0.436	0.246, 0.771	0.004
Specialty			
General practice	REF		
Specialists	0.488	0.216, 1.103	0.085
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	0.821	0.288, 2.337	0.711
11 - 15 yrs	0.852	0.315, 2.303	0.752
16 yrs+	0.610	0.260, 1.431	0.256
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.481	0.240, 0.964	0.039
11 - 15 yrs	1.336	0.546, 3.267	0.526
16 yrs+	0.554	0.329, 0.933	0.026
Number of physicians in primary medical office			
Solo practice	0.410	0.215, 0.782	0.007
Small group practice	0.560	0.307, 1.022	0.059
Medium group practice	0.893	0.473, 1.686	0.727
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.163	0.648, 2.088	0.612
Rural	0.890	0.552, 1.434	0.631
Need for additional patient information			
Yes	0.571	0.368, 0.888	0.013
No	REF		
Need for additional clinical information			
Yes	0.480	0.287, 0.804	0.005
No	REF		
Need for more training on follow-up care			
Yes	0.408	0.258, 0.647	<0.001
No	REF		
Program usefulness			
Very or somewhat useful	0.004	0.000, 190923.9	0.535
Neutral	0.004	0.000, 204685.0	0.538
Not very useful or not useful at all	REF		

Table 4.13 shows the final logistic regression model. The model included number of patients on follow-up and the need for more training on follow-up care. Physicians with high numbers of FBM patients were significantly more likely to be very confident than physicians with a low number of patients. In addition, physicians needing more training were 2.4 times more likely to be less than very confident than physicians not needing training.

Table 4.13: Final multivariate model showing the relationship between physician-related variables and physician confidence for following lung cancer

Variable	OR_{adj}	95% CI	p-value
Number of follow-up patients			
Low	REF		
Intermediate	0.847	0.457, 1.567	0.596
High	0.438	0.243, 0.790	0.006
Need for more training on follow-up care			
Yes	2.378	1.491, 3.791	<0.001
No	REF		

4.3.3.4 Prostate Cancer

Excluding those who said the question was not applicable to them, 44.6% of respondents said they were very confident they had the skills to do follow-up for prostate cancer. This was a mid-range result compared to physicians' confidence levels for other cancers. Two-fifths (40.2%) of physicians were somewhat confident while 13.1% were somewhat unconfident and 2.1% were very unconfident (Figure 4.8).

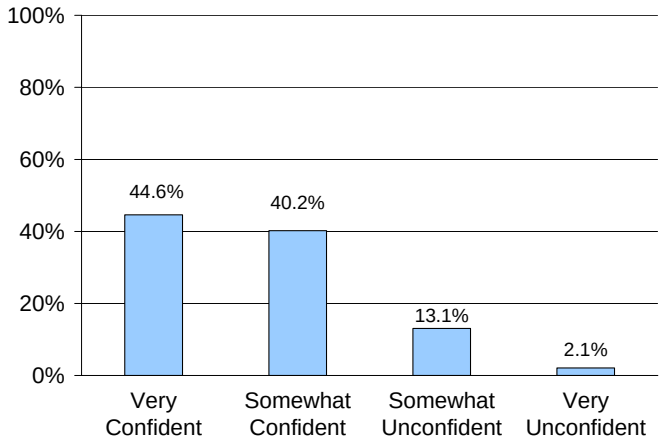

Figure 4.8: Physician confidence in following prostate cancer (n=381)

Table 4.14 shows the bivariate associations between physician-related variables and the outcome variable, physician confidence in following prostate cancer. All variables were retained for further analyses.

Table 4.14: Bivariate associations between physician-related variables and physician confidence in following prostate cancer

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	3.312	2.037, 5.387	<0.001
Number of follow-up patients			
Low	REF		
Intermediate	0.831	0.469, 1.470	0.525
High	0.314	0.179, 0.549	<0.001
Specialty			
General practice	REF		
Specialists	0.402	0.174, 0.926	0.032
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	1.989	0.749, 5.279	0.167
11 - 15 yrs	1.064	0.439, 2.579	0.891
16 yrs+	0.914	0.432, 1.935	0.815
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.470	0.239, 0.923	0.028
11 - 15 yrs	0.537	0.247, 1.165	0.116
16 yrs+	0.542	0.330, 0.889	0.015
Number of physicians in primary medical office			
Solo practice	0.426	0.228, 0.798	0.008
Small group practice	0.649	0.367, 1.147	0.137
Medium group practice	0.791	0.441, 1.419	0.432
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.090	0.624, 1.904	0.761
Rural	0.689	0.435, 1.094	0.114
Need for additional patient information			
Yes	0.461	0.300, 0.709	<0.001
No	REF		
Need for additional clinical information			
Yes	0.401	0.242, 0.663	<0.001
No	REF		
Need for more training on follow-up care			
Yes	0.349	0.225, 0.542	<0.001
No	REF		
Program usefulness			
Very or somewhat useful	0.199	0.024, 1.667	0.136
Neutral	0.334	0.031, 3.579	0.364
Not very useful or not useful at all	REF		

Table 4.15 depicts the final logistic regression model. The model included physician sex, number of patients on follow-up and the need for more training of follow-up care. Female physicians were 2.2 times more likely to be less than very confident in following prostate cancer than male physicians. Physicians with high numbers of FBM patients were 2.8 times more likely to be very confident than physicians with a low number of patients. Physicians needing additional training were 2.6 times more likely to be less than very confident than physicians not needing more training.

Table 4.15: Final multivariate model showing the relationship between physician-related variables and physician confidence for following prostate cancer

Variable	OR_{adj}	95% CI	p-value
Sex			
Male	REF		
Female	2.161	1.277, 3.657	0.004
Number of follow-up patients			
Low	REF		
Intermediate	0.858	0.464, 1.585	0.625
High	0.356	0.196, 0.646	0.001
Need for more training on follow-up care			
Yes	2.611	1.642, 4.152	<0.001
No	REF		

4.3.3.5 Gynecological Cancers

Excluding those who said the question was not applicable to them, 34.4% of respondents said they were very confident they had the skills to do follow-up for gynecological cancers. This was in the low to middle range of physician confidence levels for the most common cancers. Over half (52.3%) of physicians were somewhat confident while 11.0% were somewhat unconfident and 2.3% were very unconfident (Figure 4.9).

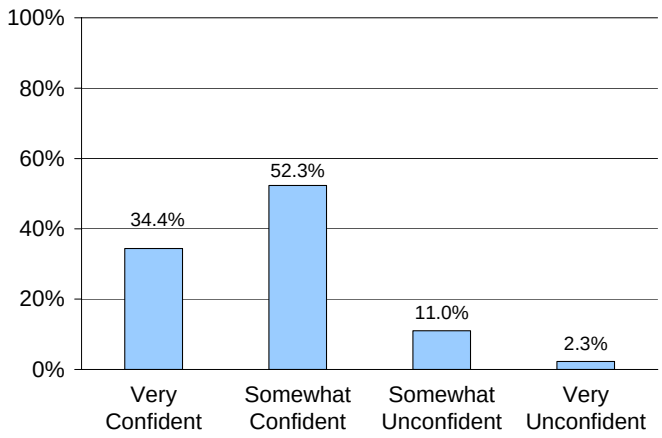

Figure 4.9: Physician confidence in following gynecological cancers (n=392)

Table 4.16 shows the bivariate associations between physician-related variables and the outcome variable, physician confidence in following gynecological cancers. All variables, except physician sex, location of practice and the need for additional patient information were retained for further analyses, as was program usefulness since the overall p-value for the variable was close to the cut-off at p=0.269.

Table 4.16: Bivariate associations between physician-related variables and physician confidence in following gynecological cancers

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	0.784	0.502, 1.225	0.286
Number of follow-up patients			
Low	REF		
Intermediate	0.855	0.483, 1.513	0.590
High	0.613	0.350, 1.072	0.086
Specialty			
General practice	REF		
Specialists	0.134	0.061, 0.293	<0.001
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	0.723	0.248, 2.110	0.553
11 - 15 yrs	0.803	0.288, 2.234	0.803
16 yrs+	0.428	0.179, 1.028	0.058
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.401	0.197, 0.815	0.012
11 - 15 yrs	0.749	0.318, 1.763	0.508
16 yrs+	0.355	0.206, 0.613	<0.001
Number of physicians in primary medical office			
Solo practice	0.616	0.331, 1.149	0.128
Small group practice	0.832	0.463, 1.494	0.537
Medium group practice	0.894	0.485, 1.647	0.718
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.253	0.714, 2.199	0.431
Rural	1.168	0.722, 1.889	0.526
Need for additional patient information			
Yes	0.788	0.510, 1.219	0.285
No	REF		
Need for additional clinical information			
Yes	0.698	0.419, 1.163	0.167
No	REF		
Need for more training on follow-up care			
Yes	0.322	0.202, 0.514	<0.001
No	REF		
Program usefulness			
Very or somewhat useful	0.362	0.042, 3.128	0.355
Neutral	0.867	0.072, 10.423	0.910
Not very useful or not useful at all	REF		

Table 4.17 depicts the final logistic regression model. This model contained the highest number of correlates among the cancers: physician specialty, years in clinical practice in Saskatchewan, program usefulness and the need for more training of follow-up care.

Specialists were ten times more likely to be confident in following gynecological cancers than GPs. Gynecological cancers were the only cancers for which physicians' years in clinical practice in Saskatchewan and perceived program usefulness were significant contributors to the regression model. Physicians working 6 to 10 years and 16 or more years in Saskatchewan were 2.5 times and 2.7 times more likely to be very confident in following gynecological cancers, respectively, than physicians practicing in the province for only 0 to 5 years. It is unclear why the results for physicians working in the province for 11 to 15 years did not follow the same trend. Physicians who saw FBM as very or somewhat useful were more 14.7 times more likely to be confident than those who said the program was not very useful or not useful at all. As seen before, physicians needing additional training were more likely to be less than very confident. In this instance, physicians needing additional training were 2.5 times more likely to be less than very confident than physicians not needing training.

Table 4.17: Final multivariate model showing the relationship between physician-related variables and physician confidence for following gynecological cancers

Variable	OR_{adj}	95% CI	p-value
Specialty			
General practice	REF		
Specialists	0.100	0.038, 0.262	<0.001
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.402	0.185, 0.873	0.021
11 - 15 yrs	1.068	0.399, 2.858	0.896
16 yrs+	0.370	0.203, 0.676	0.001
Program usefulness			
Very or somewhat useful	0.068	0.005, 0.884	0.040
Neutral	0.233	0.013, 4.318	0.328
Not very useful or not useful at all	REF		
Need for more training on follow-up care			
Yes	2.525	1.523, 4.185	<0.001
No	REF		

4.3.3.6 Lymphomas

Excluding those who said the question was not applicable to them, 19.1% of respondents said they were very confident they had the skills to do follow-up for lymphomas. This was the lowest level of physician confidence seen among the cancers asked about in this study. About half (49.5%) of physicians were somewhat confident while 26.6% were somewhat unconfident and 4.8% were very unconfident (Figure 4.10).

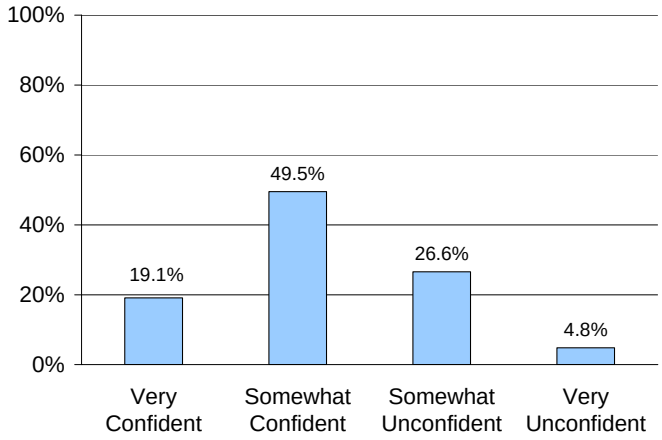

Figure 4.10: Physician confidence in following lymphomas (n=398)

Table 4.18 shows the bivariate associations between physician-related variables and the outcome variable, physician confidence in following lymphomas. All variables, except program usefulness, were retained for further analyses.

Table 4.18: Bivariate associations between physician-related variables and physician confidence in following lymphomas

Variable, n (%)	OR	95% CI	p-value
Sex			
Male	REF		
Female	1.590	0.882, 2.867	0.123
Number of follow-up patients			
Low	REF		
Intermediate	0.677	0.315, 1.451	0.315
High	0.409	0.198, 0.845	0.016
Specialty			
General practice	REF		
Specialists	0.277	0.142, 0.540	<0.001
Years in clinical practice			
0 - 5 yrs	REF		
6 - 10 yrs	0.952	0.246, 3.689	0.944
11 - 15 yrs	1.000	0.269, 3.718	1.000
16 yrs+	0.482	0.162, 1.429	0.188
Years in clinical practice in Saskatchewan			
0 - 5 yrs	REF		
6 - 10 yrs	0.414	0.177, 0.970	0.042
11 - 15 yrs	0.700	0.246, 1.994	0.505
16 yrs+	0.430	0.220, 0.839	0.013
Number of physicians in primary medical office			
Solo practice	0.281	0.128, 0.618	0.002
Small group practice	0.491	0.227, 1.065	0.072
Medium group practice	0.712	0.312, 1.625	0.420
Large group practice	REF		
Location of practice			
Metropolitan	REF		
Urban	1.593	0.769, 3.301	0.210
Rural	1.026	0.584, 1.802	0.929
Need for additional patient information			
Yes	0.498	0.300, 0.827	0.007
No	REF		
Need for additional clinical information			
Yes	0.433	0.249, 0.753	0.003
No	REF		
Need for more training on follow-up care			
Yes	0.301	0.164, 0.555	<0.001
No	REF		
Program usefulness			
Very or somewhat useful	0.708	0.084, 5.969	0.750
Neutral	0.467	0.045, 4.896	0.525
Not very useful or not useful at all	REF		

The final regression model for physicians' confidence in their skills for following lymphomas only contained the need for additional training on follow-up care (Table 4.19). Physicians needing additional training were 3.3 times more likely to be less than very confident than those not needing training.

Table 4.19: Final multivariate model showing the relationship between physician-related variables and physician confidence for following lymphomas

Variable	OR_{adj}	95% CI	P-value
Need for more training on follow-up care			
Yes	3.317	1.803, 6.104	<0.001
No	REF		

4.3.4 Summary

The survey findings revealed community-based physicians' overall perceptions of FBM with 72.3% of respondents finding the program to be very useful as they provide follow-up cancer care. The levels of physicians' information and training needs were also described with the greatest need being for additional clinical information. Three regression models, all including the variables 'physician confidence' and 'physician specialty', revealed multiple correlates associated with these needs.

Percentages of physicians saying they were very confident in following cancers ranged from 54.2% for breast cancer to 44.6% for prostate cancer to 44.3% for colorectal cancer to 35.5% for lung cancer to 34.4% for gynecological cancers to 19.1% for lymphomas.

Table 4.20 provides an overview of the significant correlates found in the final regression models on physician confidence. The only common correlate among the models was the need for additional training. Number of FBM patients was a significant correlate in four of the six models and physician specialty was included in half of the models.

Table 4.20: Significant correlates in final multivariate models regarding physician confidence, by cancer type

	Correlates					
Cancer Type	Physician sex	Number of FBM patients	Physician specialty	Years in clinical practice in Saskatchewan	Need for more training	Program usefulness
Breast		x	x		x	
Colorectal		x	x		x	
Lung		x			x	
Prostate	x	x			x	
Gynecological			x	x	x	x
Lymphomas					x	

CHAPTER 5

DISCUSSION

Since the number of cancer patients requiring follow-up care is on the rise, it is imperative that physicians are satisfied with FBM and that they are provided with the tools required to provide such care. This study's findings illustrate physicians' overall assessments of FBM as well as their information needs and levels of confidence in providing follow-up care. This final chapter provides a discussion of the study's findings and limitations. Recommendations for future study are also considered.

5.1 Participant Characteristics

Little is known about the demographic characteristics of physicians providing follow-up cancer care in Saskatchewan. Responding physicians, however, could be compared against all physicians doing follow-up based on specialty and relative number of follow-up patients. Chi-square analyses showed no significant differences between respondents and non-respondents based on physician specialty; however, differences were found based on the relative number of FBM patients. Responding physicians with high numbers of follow-up patients were somewhat overrepresented while those with an intermediate number of follow-up patients were marginally overrepresented. Those physicians with low numbers of patients were substantially underrepresented at 25.8%, compared to 33.5% of all physicians following Saskatchewan cancer patients in the community. It may be that physicians with fewer follow-up patients had less of a professional interest in FBM and were, thus, less likely to complete the questionnaire. As a result, the survey findings may more strongly reflect the views of physicians with higher volumes of follow-up patients.

Respondents' overall demographic profile was as follows: a large proportion of the respondents were male general practitioners, those who had been in clinical practice

for 16 or more years and those who were currently practicing in metropolitan or urban settings.

5.2 Overall Perceptions of FBM

This study's first research question asked, "What are physicians' overall impressions of FBM?" Physicians' perceptions of the program were overwhelmingly positive. The usefulness of the program was rated high with over 90% of respondents saying the program was very or somewhat useful. Responses regarding the importance of the FBM letter as a reminder were similar. Clearly, community-based physicians consider FBM to be important to the delivery of follow-up care. Given these results, it is not surprising that the level of satisfaction with the content of the follow-up letter was also high.

At the same time, however, only one quarter of physicians thought the letters were always clear on the timing of tests and procedures to be done during follow-up visits, leaving room for improvement. Clinical practice guidelines typically provide this type of information on FBM letters but they have only been available for eight types of cancer. Physicians have been shown to feel more prepared to accept the responsibility of providing follow-up care if they are provided with practice guidelines.[13] The guidelines serve to compensate for gaps in knowledge and steer physicians toward appropriate decision-making.[15] Clinical practice guidelines were chosen by over three quarters of respondents as the most needed subject of additional clinical information and two fifths of physicians needing further training wanted to learn more about the plan for follow-up, including the use of clinical practice guidelines. To ensure the timing of follow-up tests and procedures is clear to community-based physicians, a review of the clinical practice guidelines currently used may be useful. In addition, barring the availability of clinical practice guidelines for a particular cancer, other ways of providing clear information, such as written recommendations on cancer clinic discharge letters, should be considered.

5.3 Physicians' Information Needs

The second research question asked whether or not FBM letters give physicians enough information to enable them to do cancer follow-up. Responses reflected participants' own subjective assessments of their needs and, thus, were not objective appraisals of need. Nevertheless, the three survey questions addressing physicians'

information and training needs revealed high levels of unmet needs with the greatest need being seen for additional clinical information. The analyses revealed the necessity to provide physicians with more patient and clinical information as well as more training on follow-up care. Regression analyses revealed physician-related characteristics associated with greater needs for additional support as they provide follow-up care. This information may be helpful in tailoring initiatives to help fulfill physicians' information and training needs.

5.3.1 Need for Additional Patient Information

Nearly three fifths of physicians said they needed additional patient information. Since the only patient-specific information FBM letters contain is the patient's cancer type and contact information, this is not surprising. FBM letters, however, are not the only documents that go to physicians doing follow-up. Physicians also receive progress reports and discharge letters from SCA oncologists containing patient information while patients are being seen at a cancer clinic. It would be helpful to do an analysis of these letters and their accessibility to physicians as they do follow-up to get a better understanding of all the information available to physicians during the follow-up phase of care. Through this process gaps in the delivery and processing of patient-specific information may also be identified. The type of letter on which each piece of patient information should be placed to be the most useful to physicians also needs to be investigated.

Female physicians were twice as likely to indicate a need for additional patient information. Although it is clear that physician characteristics such as sex can impact physicians' information needs, the reason for this finding as it relates to the provision of follow-up care is unclear. One other study found that female physicians were more likely than male physicians to seek information on patient-specific problems.[52]

Specialists were half as likely to need additional patient information as GPs. The reason for this may be that specialists have more in-depth knowledge about caring for patients with particular types of cancers; whereas GPs follow any cancers their patients develop and generally have less training on follow-up care.

Lower physician confidence was associated with a need for additional patient information. It is not possible to determine a temporal relationship between these two

variables due to the cross-sectional nature of the study; however, this result was as expected. Physicians who are not as confident in their skills for following cancers would naturally seem to feel a greater need for additional information than those who are more confident in their skills.

The nature of the interaction effect observed between 'number of physicians in primary medical office' and 'location of practice' was contrary to what was expected based on the literature. Similar effect modification was found in the analysis for the dependent variable, need for additional clinical information, with few exceptions. According to the literature, physician colleagues are often considered a valuable information source so it is surprising that in some cases, an increase in the number of colleagues in a practice was associated with greater information needs. It was also unexpected that rural and metropolitan solo practice physicians would be found to have the lowest need for additional patient information.

5.3.2 Need for Additional Clinical Information

An even greater percentage of physicians indicated a need for additional clinical information than patient information. This finding was quite possibly related to the fact that only some FBM letters are sent with clinical practice guidelines on them. Rapid changes in cancer treatments may also play a role in the existence of these unmet information needs.

The majority of physicians with needs for additional clinical information wanted more clinical practice guidelines, drug information, direction on the timing of bloodwork and resources regarding advances in cancer treatments. All of these resources are likely to inform the type of follow-up care provided and planning for subsequent follow-up visits. In terms of the format of the clinical information needed, physicians placed a high importance on printed materials and continuing medical education. These findings may reflect the fact that printed materials are still the most accessible to physicians at the point of care compared to online resources. The SCA may want to consider making print resources available to physicians as well as hosting continuing medical education sessions for physicians providing follow-up care.

As expected, the final regression analysis revealed that lower physician confidence was associated with a need for more clinical information. This finding was

consistent with the association found between physician confidence and the need for additional patient information.

As previously mentioned, the difference in the need for additional clinical information among GPs and specialists was greater for female physicians than male physicians. This finding should, however, be interpreted with caution due to the large confidence intervals seen for sex and specialty which were likely due to the small cell sizes seen in a three-way crosstabulation between the need for additional clinical information, sex and specialty. The power of the study may not have been sufficient to reveal the true relationship between these variables.

5.3.3 Physicians' Training Needs

Although the needs for additional training in follow-up cancer care were considerably less than those found among British GPs (34.9% compared to 57.5%), clearly some training needs of physicians remained unmet.[19] The most frequent areas in which physicians had training needs related to follow-up care plans and cancer treatments. In terms of the delivery method for training, physicians most preferred continuing medical education. Given the extent of physicians' training needs, at the very least, opportunities for continuing medical education sessions should be offered on follow-up care plans and cancer treatments.

Specialists were about one quarter as likely to require additional training as GPs. This was as expected since specialists typically receive more extensive training on cancer care. Also, cancer follow-up is more likely to be part of specialists' routine practice.

The finding that lower physician confidence was associated with the need for additional training is consistent with findings regarding physicians' needs for additional patient and clinical information. In contrast, the regression models for information needs were quite different from the model predicting physicians' training needs. As a result, needs for additional patient and clinical information appeared to be more similar constructs than training needs and either type of information need.

The results of the regression analyses will be useful in the development of training sessions for a targeted audience of physicians. For example, perhaps priority should be placed on GPs for initial efforts in the provision of additional training.

5.4 Physician Confidence in Following Cancers

The study's third research question asked how confident physicians were with providing follow-up care. Proportions of physicians saying they were very confident in following particular cancers and regression models on physician confidence varied widely. Evidently, assessments of physician confidence need to be considered separately for each cancer type.

Although not studied, other variables that influence levels of physician confidence may include the nature of follow-up guidelines, program enrolment patterns, numbers of follow-up patients for individual cancers in the province (i.e. survival rates) and the extent of physicians' experiences with following specific cancers. For example, one reason for a low level of physician confidence in following lymphomas may be that lymphomas are most commonly followed through physicians at the province's cancer clinics and not by community-based physicians. In addition, a lower rate of physician confidence was seen for lung cancer than for breast and colorectal cancers. This pattern is also seen in the survival rates for these cancers, that is, survival rates for lung cancer are much lower than for breast and colorectal cancers.[8] As a result, physicians, in general, would likely see fewer patients for the follow-up of lung cancer than for breast and colorectal cancer giving them less experience with lung cancer follow-up and thus, less confidence in following it. These hypotheses, however, cannot be confirmed at this time due to a lack of pertinent information. Gynecological cancers were the only cancers for which physicians' years in clinical practice in Saskatchewan was a significant contributor to a regression model. This variable was meant to serve as a proxy measure for physicians' experience with FBM; however, it did not capture physicians' levels of experience with following individual cancers.

The one common correlate in the six regression models on physician confidence was the need for additional training. The fact that physicians in need of additional training on follow-up were less confident in their skills for delivering follow-up care was as anticipated. Physicians who are not as confident in their skills for following cancers would likely feel a greater need for training than those who are more confident in their skills.

The variable 'number of FBM patients' showed up in several of the regression models for physician confidence. Although causation cannot be deduced from the findings, it would be reasonable to assume that having more patients and potentially more experience in providing follow-up care would positively impact physicians' levels of confidence in delivering such care.

Physician specialty was included in half of the regression models. In these cases, specialists were significantly more likely to be very confident in their skills for follow-up than GPs. This occurrence was not surprising given the more advanced training of specialists. It is unclear, however, why this variable was not a significant contributor in the other half of the models.

The regression model for physician confidence in following prostate cancer was the only model on confidence containing physician sex as a correlate. Female physicians were more likely to be less than very confident in following prostate cancer than male physicians. Although little is known about the effect of physician gender on physician confidence, one study suggested that gender differences in the treatment of patients in a primary care setting were strongest for genital-specific conditions.[53] Interestingly, similar results were not seen for breast or gynecological cancers.

As already mentioned, gynecological cancers were the only cancers for which physicians' years in clinical practice in Saskatchewan was a significant contributor to the regression model. There was no trend, however, in the likelihood of physicians to be very confident with increasing years in practice in Saskatchewan. The reason for this was unclear. Gynecological cancers were also the only cancers for which perceived program usefulness was a significant contributor. Physicians who saw FBM as very or somewhat useful were 14.7 times more likely to be confident than those who said the program was not very useful or not useful at all. One might think physicians who were less confident would be more likely to view the program as useful, perhaps attributing greater importance to clinical practice guidelines and FBM letters as reminders, however, this was not the case.

The regression analyses discussed here revealed a number of variables significantly correlating with dependent variables on physician confidence. This information may be helpful in devising strategies for increasing physicians' confidence

overall to ensure the delivery of appropriate follow-up care in the province. For example, additional training, as it was seen in each of the six regression models on physician confidence, may prove useful in raising physicians' levels of confidence in their skills for following various cancers.

5.5 Study Limitations

A number of limitations of this study need to be acknowledged as they are important to the interpretation of the data presented in Chapter 4.

Respondents may not have been truly representative of the population of physicians providing community-based follow-up cancer care in Saskatchewan. Comparisons of respondents and non-respondents revealed significant differences based on the number of follow-up patients. Despite a good response rate of 52.5%, survey findings may not be generalizeable to the total population of physicians participating in FBM. A study of mail surveys found an average response rate for physician surveys of 54%.[54] This rate was 13% lower than for surveys of non-physicians. One study of mail surveys sent to physicians from 1985 to 1995 discovered an average response rate of 61%.[55]

The questionnaire's psychometric properties were not determined; therefore, the validity and reliability of the instrument could not be confirmed. This can be problematic; however, a number of steps such as consultation with experts and survey pre-testing were taken to minimize these concerns.

Some physicians also provided written comments that seemed to indicate they answered questions using the follow-up done at cancer clinics as their point of reference instead of the follow-up done by themselves in their offices. For example, one physician wrote that the patient should "follow Cancer Agency advice." It is unclear how many physicians this issue affected. This occurrence was anticipated during the development of the survey methodology and it was for this reason that a sample FBM letter was included in survey packages.

The extent of individual physicians' experience in following different types of cancers was not known. The relative number of FBM patients seen by physicians was not necessarily reflective of the depth or breadth of their experience. Experience with follow-up care may be an important factor in predicting physicians' information and training

needs as well as their levels of confidence in providing follow-up care. In addition, the variable 'years in clinical practice in Saskatchewan' may or may not have been a suitable proxy measure for experience with FBM.

It was also not possible to know which physicians had received FBM letters with clinical practice guidelines and which had not. This information would likely have been useful in interpreting the survey's results.

5.6 Conclusions

The FBM program is a unique solution to the challenge of increasing numbers of cancer patients needing follow-up care. Physicians largely find the program useful to their practice yet many require additional information and training to optimize the follow-up care they provide. Physicians are also less confident in their skills for following some cancers than hoped.

Some adjustments should be made to the program, such as providing continuing medical education for physicians. Regression models for variables related to physicians' information and training needs and levels of confidence in following various cancers will be helpful in devising strategies to enhance the capacity of community-based physicians to provide optimal follow-up cancer care.

5.7 Utilization-focused Evaluation

This study used a UFE approach and as such, set usefulness and actual use as the criteria for judging its success. In these regards, the study was successful. I took numerous steps to influence use, such as being sensitive to political and personal factors, facilitating decision-making and purposefully planning for use. Although it is not possible to determine which of these steps were most important in influencing use, it appears that the UFE approach benefited the study.

From the project's beginning, key contacts with the SCA were keen on understanding community-based physicians' views of the program. The SCA approached me with a specific need and eagerly awaited the study's findings. These factors were huge assets to the project making the facilitation of use a natural process. The study's findings were particularly important as FBM was in danger of being discontinued. This created a sense of urgency for results and indeed preliminary results revealing physicians' high ratings of program usefulness were used to save the program. In addition, survey

responses were influential early on in bringing about changes to FBM letters as well as cancer clinic progress reports and discharge letters.

The largest challenge with the UFE approach was getting feedback from evaluation committee members in a timely manner. This challenge was to be expected as the group was comprised of busy professionals tasked with many other responsibilities. The obstacle was addressed by relying on the input of key contacts at the SCA, when necessary, who provided more timely responses. The mere opportunity to provide feedback in itself was likely influential in enhancing buy-in among group members.

By the time the evaluation report was finalized and delivered to the SCA, many findings had already been acted upon. For example, FBM was suspended after the survey took place as it did not comply with new privacy legislation. There were questions about whether or not the program should be brought back at all. Given the survey findings on the program's usefulness, it was decided that the program must be continued once revised. In addition, the findings lent support to the process of standardizing the information found on cancer clinic progress reports and discharge letters that had already begun. Despite these early actions, the written report was formatted for ease of interpretation with such features as charts for the presentation of data and bulleted points to summarize main findings. Recommendations were also included which were under the control of the intended users and which aimed to facilitate the transition from analysis to further action.

5.8 Future Directions

This study investigated views on FBM only from the perspective of the community-based physician. Patients' interactions with the program as well as those of cancer clinic physicians would be useful in getting a more complete picture of the impact and acceptability of the program among stakeholders. A number of studies addressing these other perspectives have been already been planned by the SCA.

With respect to community-based physicians, it would be useful to investigate the frequency with which important pieces of information are found on progress reports and discharge letters as these documents are likely important to fulfilling physicians' needs for information during the follow-up phase of care. Currently, their quality and

accessibility to physicians during follow-up is not known. A better understanding of all the information provided to physicians is needed.

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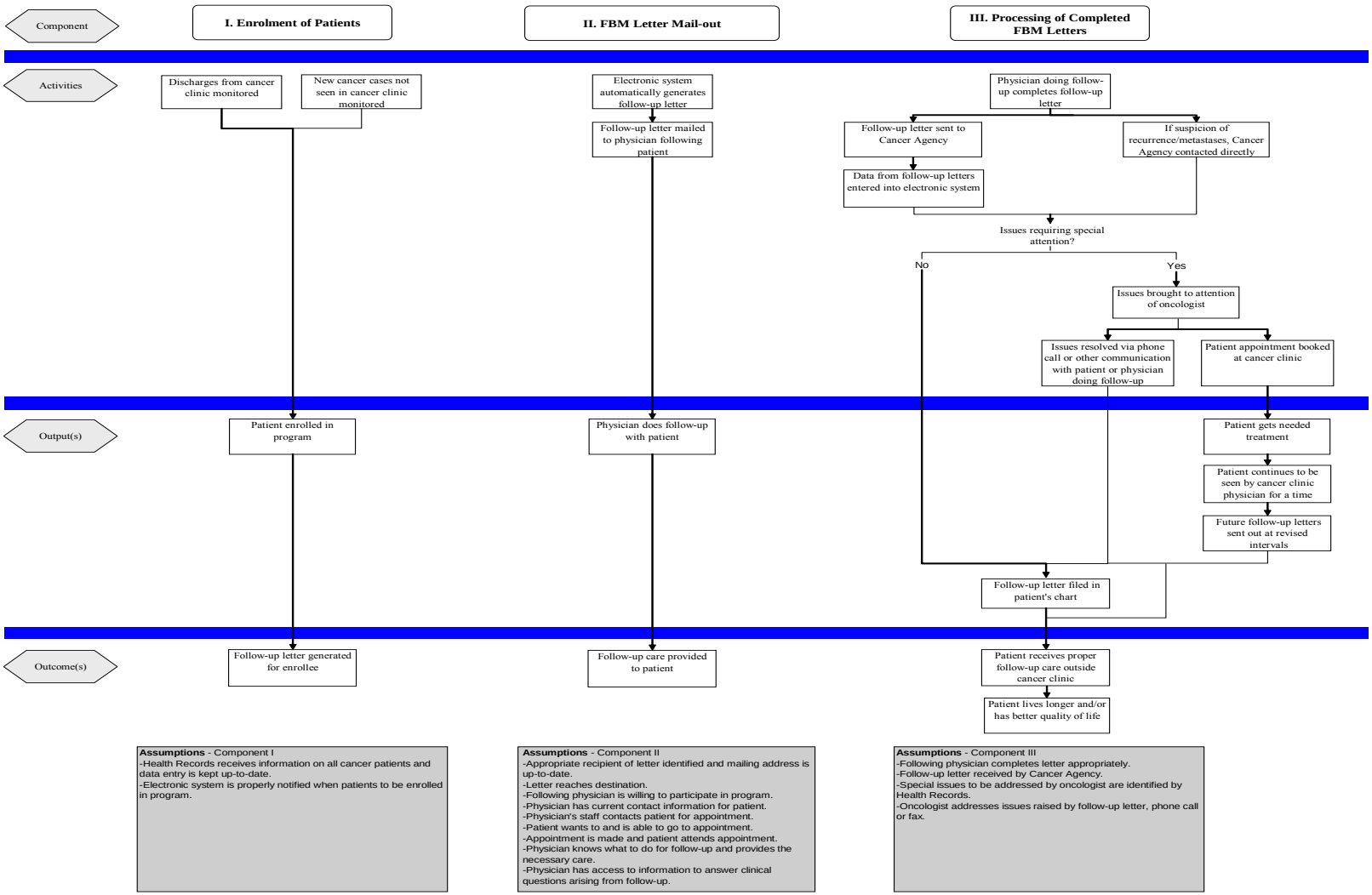
APPENDICES

APPENDIX A: Program Logic Model



APPENDIX B: Key Informant Interview Guide - Oncologists

1. What do you see as the purpose of the Follow-By-Mail program? Why do you think the SCA started sending FBM letters?

2. What were your first impressions of the program? What are your impressions now? Have your impressions changed from when you first encountered the program? Why or why not?

3. At what stage or stages do you place patients on FBM? Do you think your practices in this area are similar to those of your colleagues at the SCA?

4. Do you inform patients or the referring physician when you put patients on FBM? If so, how do you do this? Do you give instructions for follow-up to the physicians who will provide the follow-up care? Do you tell the physicians whose responsibility it is to ensure the follow-up is done?

5. Do you tell your patients about FBM? What do you tell them? What should FBM doctors tell their patients about the program?

6. How much contact have you had with the physicians who are doing follow-up? Do you have a sense of what they think of the program? Have physician brought up any concerns? Do they seem comfortable with doing follow-up and using follow-up guidelines? Have you had any requests from physicians asking for assistance or advice regarding follow-up? Can you describe some of those situations for me?

7. Are there any areas of knowledge or skills that you think physicians doing follow-up might be lacking in? Are there any areas where more education or training would assist them in providing better follow-up care?

8. Do you think physicians provide adequate follow-up care? Why or why not? Do you have any concerns about the care they provide?

9. Do you have any concerns about any negative consequences of the FBM program for patients, oncologists or the SCA?

10. What information do FBM physicians get from you about the care their patients received at the cancer clinic? When and how often is that information sent to them?

11. When do you think the physician should complete the FBM letter? Is one time better than another?

12. What happens to FBM letters once they are returned to the SCA? What do you think should happen to FBM letters once they are returned?

13. Under what circumstances do completed FBM letters get forwarded to you for your review?

14. When do you consider a referral to be made using the FBM letter?

15. Do you see any benefits from the FBM program for patients? For oncologists? For the SCA?

16. Do you think the FBM program helps improve the quality of care for cancer patients?

17. Are there any barriers to putting patients on FBM? Do you think more patients should be put on FBM?

18. Is there anything else you think I should know about as I talk to physicians doing follow-up and work on developing the questionnaire?

APPENDIX C: Key Informant Interview Guide - Community-based Physicians

Demographics/General Questions

1. How often do you see cancer patients for follow-up that are on the Cancer Agency's program?

2. How long have you been involved with the program?

3. When would you say patients are placed in the follow-up program?

4. What do you see as the purpose of the follow-up program?

First Experiences with FBM & Physician Confidence

5. If you can think back to one of the first times you did follow-up for a patient on FBM, what was that like? How did you feel about doing the follow up? Did you have any reservations about it or any questions?

6. Did you know exactly what the Cancer Agency was asking you to do and what their expectations were? Has your understanding of this changed at all since then?

7. Who would you say is responsible for a cancer patient's care after a diagnosis of cancer?

8. I want to ask physicians about their levels of confidence when it comes to follow-up care. Do you have a preference about wording such as using the word "confidence" versus "comfortable"? Confidence in doing follow-up may vary from patient to patient. Would you be able to answer the question if we asked, "In general, how comfortable are you with providing follow-up cancer care?" And how would you answer this question yourself? (If not comfortable) what are the reasons for your discomfort?

Information Needs

9. Do you feel fully equipped to conduct follow-up with your cancer patients? Why or why not?

10. Have you had any oncology training? If so, for how long? When? and Where? Have you had the opportunity to attend any oncology courses or meetings as part of your Continuing Medical Education?

11. Do you feel that you are up-to-date in your knowledge of follow-up cancer care?

12. Do you or have you faced any challenges in providing follow-up care?

13. Can you describe a time when you needed some information to answer a question that arose from doing follow-up? What type of information would have or did help you? When a question arises during a patient visit, what is your preferred source of information? How often would you say you need to seek out information from sources other than the follow-up letter and patient reports sent to you by the SCA? Is there another time outside of the patient visit when questions may arise?

14. Do you feel you need more information or training to do follow-up? If so, are your information needs patient-specific or more general?

15. In what areas do you think physicians may require more knowledge and skills to provide the necessary follow-up?

16. (If information needs unfulfilled) Why are these information needs not met?

Information Provided by and Communication with SCA

17. Do FBM *letters* give you the necessary information to enable you to do follow-up? What information is particularly valuable or what is lacking?

18. What do you think about the format of FBM letters? Do you think any additions or improvements are needed?

19. Is there any additional patient information that would be helpful for doing follow-up?

20. Is a mailed letter the best way to communicate with you when it is time for a patient's next follow-up visit? If no, what is a better way?

21. Do you feel the FBM letter serves as a reminder to see your cancer patients?

Guidelines for Follow-up

22. Do you use the guidelines provided on the back of the letter? Are they helpful? Why or why not?

23. Do guidelines reflect your current clinical practices?

24. Do you require education or more information about using the follow-up guidelines?

25. Do you have any preference in whether you are sent a general follow-up letter vs. a site-specific letter?

Physician Capacity

26. I'm trying to get a sense of physician's capacities for providing follow-up care, so would you be able to see more patients needing follow-up care? What would be a manageable number of patients for you to see on this program? If so, what additional help would you need from the Cancer Agency?

Steps Taken after FBM Letter is Returned

27. If there is evidence of recurrence, metastatic disease or other cancer-related problems, what do you think the Cancer Agency does with completed follow-up letters returned to them?

28. When should the SCA consider that a referral has been made?

PATIENT-PHYSICIAN COMMUNICATION

29. Do you discuss test results done as part of follow up with your FBM patients? Are your FBM patients aware that they are on FBM? How do they come to know they are on the program? Do you ever discuss the FBM program with your FBM patients? Why or why not? What do you tell your patients about FBM? What are some circumstances under which you discuss it?

30. When do you complete FBM letters? Are there any other times?

31. Are there any barriers to completing the letter in a timely manner?

PATIENT CARE OUTSIDE OF FBM

32. Do you see your patients in-between FBM letters? Under what circumstances?

33. Do you continue to do follow-up for patients after FBM letters stop coming from the SCA?

34. Are there any other ways that the program affects patient care?

Additional Comments

35. Do you have any questions about the program?

36. Is there anything else you'd like to mention or something else you think I should know as I develop the questionnaire?

APPENDIX D: Pre-testing Interview Guide

Participant instructions:
In a minute I'm going to hand you a questionnaire in an envelope and I'd like you to fill it out the same way you would if it came to you at your office. I'll stay in the room while you fill it out, but please don't ask me any questions; just do it as if you were in your office and I wasn't there. I will be taking some notes while you fill out the questionnaire. Try not to let this distract you. When you have finished, put the questionnaire into the return envelope as if you were mailing it back to the Cancer Agency and then I will ask you some questions. Is that clear?

Examples of questions based on observation of potential problems:
I noticed that when you were filling out the survey that…(What goes here depends upon what happened in the interview.)

a. Suppose the respondent skipped an item..."I'd like to ask about this item (pointing to it). I see that you left it blank. Was there a particular reason for that?"

b. Suppose the respondent frowned… "I noticed here that you seemed to be thinking really hard, or was there something about this question you were trying to figure out?"

c. Suppose the respondent scanned ahead…"I noticed that when you got here you stopped for a minute, looked ahead and turned the survey over. Could you tell me what you might have been thinking about here?"

General Questions asked at the end of Interviews:

a. Overall, what was your impression of the mailing package?

b. Was the content of the cover letter clear and easy to understand? Did the cover letter raise any concerns for you that were not adequately addressed? Do you feel that your privacy will be protected?

c. Was there any confusion regarding why the follow-up letter was included in the survey package?

d. On a scale of 1 to 5, where 1 means very easy and 5 means very difficult, how easy or difficult was it for you to figure out where to begin on the survey?

e. Was the survey easy to read? Were any parts confusing?

f. Was the meaning of any word unclear?

g. Were all technical terms used appropriately?

h. Were some questions more difficult to answer than others?

i. Were any questions lacking the appropriate response options?

j. Were there any questions where some response options could be eliminated?

k. Do you have any suggestions regarding the addition or deletion of questions, clarification of instructions or improvements in format?

l. Do you have anything else you would like to tell me that you haven't had a chance to mention?

APPENDIX E: Pre-testing Cover Letter

May 6, 2005

Dr. «firstname» «lastname»
«address1»
«address2»
«city», «province» «postcode»

Please use the postage paid envelope and mail the completed survey to:

Raegan Osicki
Saskatoon Cancer Centre
20 Campus Drive
Saskatoon, SK S7N 4H4

Dear Dr. «lastname»:

RE: Follow-up of Cancer Patients

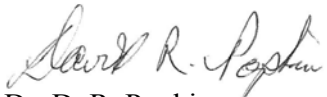
I invite your participation in an evaluation of the Saskatchewan Cancer Agency's (SCA) Follow by Mail (FBM) program. The FBM program is intended to assist physicians in the follow-up of cancer patients who have completed treatment. FBM suggests follow-up procedures and provides a mechanism for reporting information back to the cancer clinics about the disease status of patients. The enclosed survey will collect valuable feedback from physicians about the FBM program, as we strive to improve the quality of cancer care.

We are contacting all physicians currently doing cancer follow-up to ask them about their information needs, their confidence in conducting cancer follow-up and procedures for referring patients back to a Cancer Centre. Results from the survey will assist the SCA in tailoring the FBM program to meet the needs of the physicians involved. Your feedback will enhance the delivery of appropriate and timely patient care.

Please complete the enclosed questionnaire by **May 20, 2005**. It takes about 20 minutes to complete. This survey is voluntary; however, because your involvement is an integral part of the follow-up of cancer patients, your input is vital for further development of this program. There are no known risks to participating and you may skip any questions that you do not wish to answer. Your answers are completely confidential and will be released only in aggregate form, meaning no individual's answers will be identified. The study is being carried out by external researchers (Raegan Osicki & Kathryn Green, University of Saskatchewan, 306-966-7839) as an added measure to ensure confidentiality. The 4-digit number on the return envelope will be used only to remove respondents' names from mailing lists for subsequent correspondence. This evaluation has been approved by the University of Saskatchewan Behavioural Research Ethics Board (Beh #05-56). By returning the survey, you are giving your consent to participate.

Thank you in advance for participating in this important project. Questions regarding your rights as a participant may be addressed by calling the Office of Research Services (306-966-2084). You may call collect. If you have any questions about this survey or you would like a summary of the study's results, please contact Jon Tonita (306-766-2173, jon.tonita@scf.sk.ca).

Sincerely,



Dr. D. R. Popkin
Executive Director, Saskatoon Cancer Centre

APPENDIX F: Draft Questionnaire Used for Pre-testing

Instructions: Please place an X beside the <u>one</u> option that best answers each question below unless otherwise indicated.

Section A: Follow-Up Letters

This section asks about your views on the follow-up letters that the Cancer Agency sends you for each of your cancer patients in the follow-up phase of care.

1. In general, is it clear what type of cancer you are being asked to follow when you receive a follow-up letter?

- ❒ Yes, always
- ❒ Yes, sometimes
- ❒ No

2. How important a role does the follow-up letter play in reminding you when it is time to see your cancer patients for follow-up?

- ❒ Very important
- ❒ Somewhat important
- ❒ Neither important nor unimportant
- ❒ Somewhat unimportant
- ❒ Very unimportant

3. How important is it to receive clinical practice guidelines with follow-up letters?

- ❒ Very important
- ❒ Somewhat important
- ❒ Neither important nor unimportant
- ❒ Somewhat unimportant
- ❒ Very unimportant

4. Are follow-up letters clear about the timing of tests and procedures to be done as part of follow-up?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never

5. How satisfied are you with the *content* of the follow-up letters (e.g., patient information, items needing responses, response options)?

- ❒ Very satisfied
- ❒ Somewhat satisfied
- ❒ Neither satisfied nor dissatisfied
- ❒ Somewhat dissatisfied
- ❒ Very dissatisfied
- ❒ Not sure

→ **(If dissatisfied) What should be changed, added or omitted?**

Section B: Information Provided by Cancer Clinic Physicians

This section asks about your views on the information provided to you by cancer clinic physicians, as such information may impact physician practices during follow-up care.

6. In the *progress reports* sent to you by the cancer clinic, are the treatments your patients have received made clear?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never
- ❒ Not applicable

7. In the *progress reports* sent to you by the cancer clinic, do you feel that the side effects or complications your cancer patients have experienced during treatment are made clear?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never

8. How frequently do *discharge letters* from the cancer clinic include clear recommendations about the tests and examinations your cancer patients will need to have done over the course of long-term follow-up care?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never

Section C: Levels of Confidence Regarding the Provision of Follow-Up Care

9. In general, how *confident* are you that you have the *skills* needed to provide appropriate follow-up care for patients with histories of the cancers listed below?

Breast	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Colorectal	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Lung	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Prostate	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Gynecological	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Lymphomas	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒

10. In general, how *comfortable* are you with conducting follow-up care for patients with histories of the cancers listed below?

Breast	Very comfortable ❒	Somewhat comfortable ❒	Somewhat uncomfortable ❒	Very uncomfortable ❒	Not applicable ❒
Colorectal	Very comfortable ❒	Somewhat comfortable ❒	Somewhat uncomfortable ❒	Very uncomfortable ❒	Not applicable ❒
Lung	Very comfortable ❒	Somewhat comfortable ❒	Somewhat uncomfortable ❒	Very uncomfortable ❒	Not applicable ❒
Prostate	Very comfortable ❒	Somewhat comfortable ❒	Somewhat uncomfortable ❒	Very uncomfortable ❒	Not applicable ❒
Gynecological	Very comfortable ❒	Somewhat comfortable ❒	Somewhat uncomfortable ❒	Very uncomfortable ❒	Not applicable ❒
Lymphomas	Very comfortable ❒	Somewhat comfortable ❒	Somewhat uncomfortable ❒	Very uncomfortable ❒	Not applicable ❒

Section D: Information Needs

11. Do you need any additional *patient information* from the Cancer Agency to do follow-up?

❒ Yes
❒ No → **(If Yes) What additional information is needed?**

12. Is there any *clinical information* related to follow-up, in addition to the information you already receive from the cancer clinic, that would help improve your practice?

❒ Yes
❒ No

→ **(If Yes) Rank the following *subject areas* in terms their importance to meeting your information needs, with "1" as the most important, "2" as the 2nd most important and so on.**

____Drug information
____Advances in cancer treatments
____Managing the psychosocial needs of patients
____Timing of blood work
____Clinical practice guidelines
____Other—specify:_____

→ **(If Yes) Rank the following based on their usefulness in providing clinical information, with "1" as the most useful, "2" as the 2nd most useful and so on.**

____Continuing medical education
____Printed materials
____Online resources
____Resource person
____Other—specify:_____

13. Do you feel that you require more training on follow-up cancer care?

❒ Yes
❒ No

→ **(If Yes) What type of training is needed and what would be the best way to deliver it?**

14. How do you go about answering your own clinically-based questions that arise during follow-up visits?

Section E: Follow-Up Practices

15. Who do you believe has the *primary* responsibility to ensure that cancer patients get appointments for follow-up care?

- ❒ Patients (and/or their families)
- ❒ Physicians who are doing follow-up
- ❒ Cancer Agency
- ❒ Other – specify:_____

16. Do you discuss the follow-up program with your patients?

- ❒ Yes, always
- ❒ Yes, sometimes → **(If Yes) What do you tell them?**
- ❒ No

17. Which <u>one</u> of the following statements best describes how follow-up appointments are booked for your cancer patients?

- ❒ Someone from my office calls the patients
- ❒ Patients call my office when it is time for a follow-up visit
- ❒ Patients usually have appointments for other medical needs booked already so follow-up care is provided during those visits

18. Do you ever encounter barriers to completing follow-up letters in a timely manner?

- ❒ Yes
- ❒ No

→ **(If Yes) What are the barriers?** *Choose <u>all</u> that apply.*

- ❒ It is not always possible to contact the patient.
- ❒ The patient is not always willing or able to come to a follow-up visit.
- ❒ It is difficult to book patient appointments within a short period of time.
- ❒ Other—specify:_____

19. When you want to refer a patient who is on follow-up to a cancer clinic, do you use the follow-up letter as a referral?

- ❒ Yes, always
- ❒ Yes, sometimes
- ❒ No, never
- ❒ No, I haven't had to refer a patient back to the cancer clinic.

→ **(If Yes) How do you indicate that you wish to make a referral?**

20. If you indicate on the follow-up letter that one of your patients is exhibiting signs of recurrence or metastases, what do you think the Cancer Agency does with the follow-up letter?

- ❒ The letter is treated as a referral
- ❒ The comments are reviewed by an oncologist to determine a suitable course of action
- ❒ The letter is filed in the patient's chart
- ❒ Other—specify:_____

21. Referring to Question 20, what do you think *should* happen with these follow-up letters?

22. Do you ever see patients for cancer follow-up more frequently than suggested by the follow-up letters?

- ❒ Yes
- ❒ No

→ **(If Yes) Under what circumstances do you see patients more frequently?**

23. Do you continue to do follow-up for cancer patients after follow-up letters stop coming from the Cancer Agency?

- ❒ Yes, always
- ❒ Yes, sometimes
- ❒ No

24. On the whole, how useful is the follow-up program to you in providing cancer patient follow-up?

- ❒ Very useful
- ❒ Somewhat useful
- ❒ Neutral
- ❒ Somewhat unuseful
- ❒ Very unuseful

Section F: Background Information
Your answers to the questions in this section will help us to determine if there are any differences in the views of physicians with various backgrounds.

25. What is your gender?

- ❒ Male
- ❒ Female

26. For how many years have you worked in clinical practice?

- ❒ 0-5 years
- ❒ 6-10 years
- ❒ 11-15 years
- ❒ Greater than 15 years

27. For how many years have you worked in clinical practice *in Saskatchewan*?

- ❒ 0-5 years
- ❒ 6-10 years
- ❒ 11-15 years
- ❒ Greater than 15 years

28. What is your medical specialty?

- ❒ General practice/Family practice
- ❒ Other specialty

29. Do you directly provide cancer treatments for patients?

- ❒ Yes
- ❒ No

30. Including yourself, how many clinicians work in your primary medical practice?

Number of physicians: _____

31. Which of the following best describes the region in which your primary medical practice is located?

- ❒ Saskatoon or Regina
- ❒ A city of 10,000 or more residents, other than Saskatoon or Regina
- ❒ A city, town, village or hamlet with fewer than 10,000 residents

32. Is your primary medical practice in the Mamawetan Churchill River, Keewatin Yatthé or Athabasca Health Region?

- ❒ Yes
- ❒ No

31. Additional Comments:

If you would like to make any additional comments about the survey, the follow-up program or any other related matter, please do so in the space provided below. You may attach additional pages if needed.

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for your participation!

APPENDIX G: First Mailing's Cover Letter

June 13, 2005

Dr. «firstname» «lastname»
«address1»
«address2»
«address3»
«address4»
«city», SK «postcode»

Please use the postage paid envelope and mail the completed survey to:

Raegan Osicki
Saskatoon Cancer Centre
20 Campus Drive
Saskatoon, SK S7N 4H4

Dear Dr. «lastname»:

RE: Follow-up of Cancer Patients

I invite your participation in an evaluation of the Saskatchewan Cancer Agency's (SCA) Follow-By-Mail (FBM) program. The FBM program is intended to assist physicians in the follow-up of cancer patients who have completed treatment. FBM suggests follow-up procedures and provides a mechanism for reporting the disease status of patients to the cancer clinics. The enclosed survey will provide valuable feedback from physicians about the program, as we strive to improve the quality of cancer care.

Please fill out the enclosed questionnaire by **June 27, 2005**. It takes about 15 minutes to complete. The survey is voluntary and your answers are completely confidential. There are no known risks to participating and you may skip any questions you do not wish to answer. The study is being carried out by external researchers (Raegan Osicki & Dr. Kathryn Green, University of Saskatchewan, 306-966-7839) as an added measure to ensure confidentiality. The 4-digit number on the return envelope will be used to remove respondents' names from mailing lists for subsequent correspondence. The file linking participants' names to their 4-digit codes will be destroyed after the last mailing has been sent. This evaluation has been approved by the University of Saskatchewan Behavioural Research Ethics Board (Beh #05-56). By returning the survey, you are giving your consent to participate.

Thank you in advance for participating in this important project. Questions regarding participants' rights may be addressed by calling the Office of Research Services (306-966-2084). You may call collect. If you have any questions about this survey or you would like a summary of the study's results, please contact Jon Tonita (306-766-2173, jon.tonita@scf.sk.ca).

Sincerely,

Dr. D. R. Popkin
Executive Director, Saskatoon Cancer Centre

APPENDIX H: Reminder/Thank you Letter

June 20, 2005

Dr. «firstname» «lastname»
«address1»
«address2»
«address3»
«address4»
«city», SK «postcode»

Dear Dr. «lastname»:

RE: Reminder to Give Your Input

In the last week a questionnaire was sent to you seeking your views on the Saskatchewan Cancer Agency's follow-up cancer care program.

If you have already completed and returned the questionnaire, please accept our sincere thanks. If not, please do so today. We are especially grateful for your help because it is only through hearing your opinions and understanding your experiences of follow-up that we can tailor our program to meet your needs.

If you did not receive a questionnaire, or if it has been misplaced, please contact Jon Tonita (306-766-2173, jon.tonita@scf.sk.ca) and we will get another one in the mail to you today. Thank you for your participation in this important project.

Sincerely,

Dr. D. R. Popkin
Executive Director, Saskatoon Cancer Centre

Please use the postage paid envelope you received earlier and mail the completed survey to:

Raegan Osicki
Saskatoon Cancer Centre
20 Campus Drive
Saskatoon, SK S7N 4H4

APPENDIX I: Third Mailing's Cover Letter

July 4, 2005

Dr. «firstname» «lastname»
«address»
«city», SK «postcode»

Dear Dr. «lastname»:

RE: Last chance for input about our Follow-By-Mail program

About 3 weeks ago we sent you a questionnaire that asked about your experiences with our community cancer follow-up program. We would still like to hear from you. If you've already responded, thank you for your participation and you can discard the enclosed questionnaire.

This study will assist the Cancer Agency to tailor its follow-up program to meet physicians' needs as they provide follow-up cancer care. Your feedback will therefore help us improve the delivery of appropriate, consistent and timely patient care.

We hope that you will fill out and return the questionnaire soon so that your responses can be included in our analyses. It takes about 15 minutes to complete. The survey is voluntary and confidential. There are no known risks to participating in this project and you may skip any questions that you do not wish to answer. The study is being carried out by external researchers (Raegan Osicki & Dr. Kathryn Green, University of Saskatchewan, 306-966-7839) as an added measure to ensure confidentiality and it has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board (Beh #05-56). Consent to participate is implied with the return of the survey.

Questions regarding your rights as a participant may be addressed by calling the Office of Research Services (Ph.306-966-2084). You may call collect. If you have any other questions, you can contact Jon Tonita (Ph.306-766-2173, jon.tonita@scf.sk.ca).

Sincerely,

Dr. D. R. Popkin
Executive Director, Saskatoon Cancer Centre

APPENDIX J: Questionnaire (final version)

Instructions: Please place an X beside the one option that best answers each question below unless otherwise indicated.

Section A: Follow-Up Letters

This section asks about your views on the follow-up letters that the Cancer Agency sends you for each of your cancer patients in the follow-up phase of care.

1. In general, is it clear what type of cancer you are being asked to follow when you receive a follow-up letter?

- ❒ Yes, always
- ❒ Yes, sometimes
- ❒ No

2. How important a role does the follow-up letter play in reminding you when it is time to see your cancer patients for follow-up?

- ❒ Very important
- ❒ Somewhat important
- ❒ Neither important nor unimportant
- ❒ Somewhat unimportant
- ❒ Very unimportant

3. How important is it to receive clinical practice guidelines with follow-up letters?

- ❒ Very important
- ❒ Somewhat important
- ❒ Neither important nor unimportant
- ❒ Somewhat unimportant
- ❒ Very unimportant

4. Are follow-up letters clear about the timing of tests and procedures to be done as part of follow-up?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never

5. How satisfied are you with the *content* of the follow-up letters (e.g., patient information, items needing responses, response options)?

- ❒ Very satisfied
- ❒ Somewhat satisfied
- ❒ Neither satisfied nor dissatisfied
- ❒ Somewhat dissatisfied
- ❒ Very dissatisfied
- ❒ Not sure

→ **(If dissatisfied) What should be changed, added or omitted?**

Section B: Information Provided by Cancer Clinic Physicians

This section asks about your views on the information provided to you by cancer clinic physicians, as such information may impact physician practices during follow-up care.

6. In the *progress reports* sent to you by the cancer clinic, are the treatments your patients have received made clear?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never
- ❒ Not applicable

7. In the *progress reports* sent to you by the cancer clinic, do you feel that the side effects or complications your cancer patients have experienced during treatment are made clear?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never
- ❒ Not applicable

8. How frequently do *discharge letters* from the cancer clinic include clear recommendations about the tests and examinations your cancer patients will need to have done over the course of long-term follow-up care?

- ❒ Always
- ❒ Usually
- ❒ Sometimes
- ❒ Rarely
- ❒ Never
- ❒ Not applicable

Section C: Levels of Confidence Regarding the Provision of Follow-Up Care

9. In general, how *confident* are you that you have the *skills* needed to provide appropriate follow-up care for patients with histories of the cancers listed below?

Breast	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Colorectal	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Lung	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Prostate	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Gynecological	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒
Lymphomas	Very confident ❒	Somewhat confident ❒	Somewhat unconfident ❒	Very unconfident ❒	Not applicable ❒

Section D: Information Needs

10. Do you need any additional *patient information* from the Cancer Agency to do follow-up?

❒ Yes
❒ No

(If Yes) What additional information is needed?
Choose <u>all</u> that apply.

❒ Prognosis
❒ Cancer type
❒ Last known cancer status
❒ Other – specify:_____

11. Is there any *clinical information* related to follow-up, in addition to the information you already receive from the cancer clinic, that would help improve your practice?

❒ Yes
❒ No

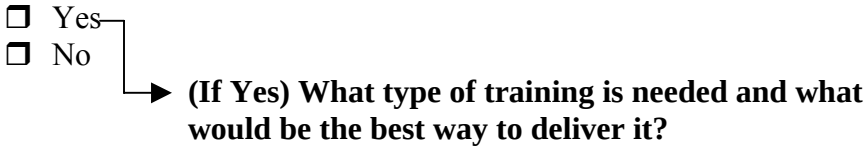
(If Yes) RANK the following *subject areas* in terms their importance to meeting your information needs, with "1" as the most important, "2" as the 2nd most important and so on.

____Drug information
____Advances in cancer treatments
____Managing the psychosocial needs of patients
____Timing of blood work
____Clinical practice guidelines
____Other—specify:_____

(If Yes) RANK the following based on their usefulness in providing clinical information, with "1" as the most useful, "2" as the 2nd most useful and so on.

____Continuing medical education
____Printed materials
____Online resources
____Resource person
____Other—specify:_____

12. Do you feel that you require more training on follow-up cancer care?



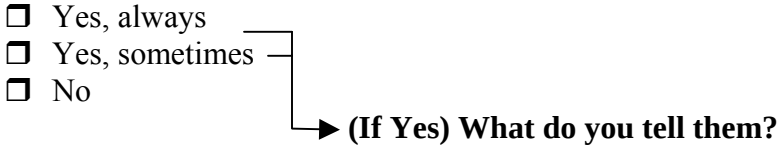
13. How do you go about answering your own clinically-based questions that arise during follow-up visits?

Section E: Follow-Up Practices

14. Who do you believe has the *primary* responsibility to ensure that cancer patients get routine appointments for follow-up care?

- ❒ Patients (and/or their families)
- ❒ Physicians who are doing follow-up
- ❒ Cancer Agency
- ❒ Other – specify:_____

15. Do you discuss the follow-up program with your patients?



16. Which <u>one</u> of the following statements best describes how follow-up appointments are booked for your cancer patients?

- ❒ Someone from my office calls the patients
- ❒ Patients call my office when it is time for a follow-up visit
- ❒ Patients usually have appointments for other medical needs booked already so follow-up care is provided during those visits

17. Do you ever encounter barriers to completing follow-up letters in a timely manner?

- ❒ Yes
- ❒ No

→ **(If Yes) What are the barriers?** *Choose <u>all</u> that apply.*

- ❒ It is not always possible to contact the patient.
- ❒ The patient is not always willing or able to come to a follow-up visit.
- ❒ It is difficult to book patient appointments within a short period of time.
- ❒ Other—specify:_____

18. Do you use the follow-up letter as a referral when you want to refer a follow-up patient to a cancer clinic?

- ❒ Yes, always
- ❒ Yes, sometimes
- ❒ No, never
- ❒ No, I haven't had to refer a patient back to the cancer clinic.

→ **(If Yes) How do you indicate that you wish to make a referral?**

19. What do you think the Cancer Agency does with the follow-up letter if you indicate a patient is exhibiting signs of recurrence or metastases?

- ❒ The letter is treated as a referral
- ❒ The comments are reviewed by an oncologist to determine a suitable course of action
- ❒ The letter is filed in the patient's chart
- ❒ Other—specify:_____

20. Referring to Question 19, what do you think *should* happen with these follow-up letters?

21. Do you ever see patients for cancer follow-up more frequently than suggested by the follow-up letters?

- ❒ Yes
- ❒ No

→ **(If Yes) Under what circumstances do you see patients more frequently?**

22. Do you continue to do follow-up for cancer patients after follow-up letters stop coming from the Cancer Agency?

- ❒ Yes, always
- ❒ Yes, sometimes
- ❒ No

23. On the whole, how useful is the follow-up program to you in providing cancer patient follow-up?

- ❒ Very useful
- ❒ Somewhat useful
- ❒ Neutral
- ❒ Not very useful
- ❒ Not useful at all

Section F: Background Information

Your answers to the questions in this section will help us to determine if there are any differences in the views of physicians with various backgrounds.

24. What is your gender?

- ❒ Male
- ❒ Female

25. For how many years have you worked in clinical practice?

- ❒ 0-5 years
- ❒ 6-10 years
- ❒ 11-15 years
- ❒ Greater than 15 years

26. For how many years have you worked in clinical practice *in Saskatchewan*?

- ❒ 0-5 years
- ❒ 6-10 years
- ❒ 11-15 years
- ❒ Greater than 15 years

27. What is your medical specialty?

- ❒ General practice/Family practice
- ❒ Other specialty

28. Including yourself, how many clinicians work in your primary medical practice?

Number of physicians: _____

29. Which of the following best describes the region in which your primary medical practice is located?

- ❒ Saskatoon or Regina
- ❒ A city of 10,000 or more residents, other than Saskatoon or Regina
- ❒ A city, town, village or hamlet with fewer than 10,000 residents

30. Is your primary medical practice in the Mamawetan Churchill River, Keewatin Yatthé or Athabasca Health Region?

- ❒ Yes
- ❒ No

31. Additional Comments:

If you would like to make any additional comments about the survey, the follow-up program or any other related matter, please do so in the space provided below. You may attach additional pages if needed.

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for your participation!

APPENDIX K: Ethics Approval Letter

UNIVERSITY OF SASKATCHEWAN
BEHAVIOURAL RESEARCH ETHICS BOARD

http://www.usask.ca/research/ethics.shtml

NAME: Kathryn Green (Reagan Osicki) **Beh #05-56**
Community Health and Epidemiology

DATE: April 27th, 2005

The University of Saskatchewan Behavioural Research Ethics Board has reviewed the Application for Ethics Approval for your research study "A Survey of Physicians' Views on the Saskatchewan Cancer Agency's Follow-By-Mail Program" (Beh #05-56). Thank you for making the requested modifications.

1. Your study has been APPROVED.

2. Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

3. The term of this approval is for 5 years.

4. This approval is valid for one year. A status report form must be submitted annually to the Chair of the Research Ethics Board in order to extend approval. This certificate will automatically be invalidated if a status report form is not received within one month of the anniversary date. Please refer to the website for further instructions http://www.usask.ca/research/behavrsc.shtml

I wish you a successful and informative study.

_____
Dr. Valerie Thompson, Chair
University of Saskatchewan
Behavioural Research Ethics Board

VT/cc

APPENDIX L: Analysis of Qualitative Comments – Content of Additional Training

Physicians indicating that they needed more training on follow-up care were asked to indicate the type of training needed. Ninety-three comments contained information pertaining to the subject areas physicians would like training in.

Follow-up Plan (40, 43.0%)

- Clinical practice guidelines/protocols for follow-up (21)
- Follow-up in general (10)
- Clear plan of what the physician was expected to do (4)
- Timing of bloodwork (4)
- Investigation for clinical metastasis (1)

Cancer Treatments (20, 21.5%)

- Advances in Cancer Treatments/Current Treatments (18)
- How decisions are made about treatment choices (1)
- Chemotherapy protocols (1)

Pharmaceuticals (10, 10.8%)

- Information on new and existing drugs (7)
- Managing side effects (2)
- Prescriptions for clinical metastasis (1)

Managing Patients' Psychosocial Needs (6, 6.5%)

Palliative Care (4, 4.3%)

Other Subject Areas (13, 14.0%)

- Included pain control, expected prognosis for various cancers, increased awareness of websites, basic science, tumor markers, discussions of case studies, early detection and screening, local clinical trials, proper completion of follow-up letter, justification of the clinical guidelines used and improving the information provided by the cancer clinic.

APPENDIX M: Analysis of Qualitative Comments – Format for Additional Training

Physicians indicating that they needed more training on follow-up care were asked to indicate the best way to deliver further training. Comments were included in more than one major grouping where appropriate. A total of 145 comments were analyzed for suggestions on the format of training sessions. Eleven specialists and 133 GPs gave comments.

Comments related to CME (68, 46.8%)

- CME – no further description (46)
- CME meetings/seminars (15)
- CME conference (3)
- CME course (1)
- Online CME (1)
- Office-based CME (1)
- CME Group discussions (1)

Comments related to seminars/lectures (23, 15.9%)

- CME meetings/seminars (15)
- Seminars/Lectures - no further description (7)
- Case-based lectures (1)

Comments related to online training (20, 13.8%)

- Online materials/information (11)
- Online courses (5)
- Online - no further description (3)
- Online CME (1)

Comments related to printed materials (18, 12.4%)

- Printed materials – no further description (13)
- Regular newsletter (2)
- Binder with follow up care for each type of cancer (1)
- More explicit information on follow up letter (1)
- Journals (1)

Comments related to courses (12, 8.3%)

- Online courses (3)
- Refresher courses (3)
- Workshop (2)
- CME course (1)
- Basic courses (1)
- Weekend course (1)
- 1-2 day program (1)

Comments related to conferences (10, 6.9%)

- Conference - no further description (7)
- CME conference (3)

Comments related to other formats (17, 11.7%)

- Included telehealth, telemedicine, teleconferencing, small group sessions, time in the cancer clinic, meetings, access to a resource person at a cancer clinic, resources at the cancer clinic, training at a local place, hospital rounds, multi-specialty consensus meetings and meetings with an oncologist.

An additional 28 comments offered no information relevant to the question.

VITA

Biographical

July 1977	Born in Saskatoon, Saskatchewan, Canada.
May 1999	B.Sc.(Hons.), Microbiology, University of Saskatchewan.
December 2005 to present	Quality Assurance/Research Coordinator, WestView Primary Care Network, Spruce Grove, Alberta, Canada.
December 2006	M.Sc., Community Health and Epidemiology, University of Saskatchewan.

Honours

1995	University of Saskatchewan Alumni Association Bursary. Value: $1000.
1995-96, 1997-98, 1998-99	University of Saskatchewan Dean's Honour List.
1996	Mary Hallett Scholarship, Canadian Federation of University Women. Value: $750.
1999	University of Saskatchewan Honours Scholarship. Value: $1000.
2002	Herb R. and Marian H. Clark Scholarship. Value: $3000.
2003	Vince Matthews Award. Value: $1000.
2004	College of Medicine Graduate Teaching Fellowship, University of Saskatchewan. Value: $15,000.
2005	CIHR Strategic Training Program in Public Health and the Agricultural Rural Ecosystems, trainee. Value: $18,000.
2005	Oral presentation, Showcasing Evaluation in Saskatchewan, a symposium of the Canadian Evaluation Society, Saskatchewan Branch, May 26, 2005.
2005	Accepted to present thesis work at the annual conferences of the Canadian Evaluation Society, the Canadian Rural Health Research Society and the Saskatchewan Epidemiological Association.
2005	Poster Presentation Award, 2005 Canadian Evaluation Society/ American Evaluation Association joint conference.

2006 Breast Cancer Action Saskatchewan Scholarship, 2006. Value: $500.

Publications

Peer-reviewed articles:

Brooks, T., Riffard, S., Osicki, R., Springthorpe, V.S., and Sattar S.A. (2002). Occurrence of Legionella in groundwater samples. *In* Tenth Canadian National Conference and First Policy Forum on Drinking Water. From Source to Tap – Protecting Drinking Water Quality in Small Systems [CD-ROM], (pp. 53-64). Ottawa, ON: Canadian Water and Wastewater Association.

Brooks, T., Riffard, S., Osicki, R., Springthorpe, V.S., and Sattar, S.A. (2003). Detection and identification of Legionella species from groundwaters. *In* S. E. Hrudey (Ed.), Proceedings of the First International Conference on Water and Health: Drinking Water Safety, a Total Quality Management Approach (pp.315-330). Waterloo, Ontario: Institute for Risk Research.

Brooks, T., Osicki, R., Springthorpe, V., Sattar, S., Filion, L., Abrial, D., and Riffard, S. (2004). Detection and identification of Legionella species from groundwaters. J Toxicol Environ Health A, 67, 1845-1859.

Peer-reviewed abstracts:

Osicki, R., and Green, K. (2005). A survey of physicians' view on the Saskatchewan Cancer Agency's community follow-up program. Sixth conference of the Canadian Rural Health Research Society/First Conference of the Canadian Society for Circumpolar Health. Bridging the Distance: Rural and Northern Health Research. [Program]. Saskatoon, Saskatchewan: Canadian Rural Health Research Society.

Osicki, R., and Green, K. (2005). A survey of physician's views on the Saskatchewan Cancer Agency's community-based follow-up program. Canadian Evaluation Society. Available at: http://c2005.evaluationcanada.ca/index.cgi?&s=4 &ss=1&_lang=en&stage=3&pres=383&_courriel=anonymous@anonymous.ces& _mpc=cmpmAk.

Other abstract:

Osicki, R., and Green, K. (2005). A survey of physicians' views on the Saskatchewan Cancer Agency's Follow By Mail program. *In* Showcasing Evaluation in Saskatchewan: Sharing Lessons Learned (pp. 3-4). Regina, Saskatchewan: Canadian Evaluation Society, Saskatchewan Branch.